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JOINT ARMY-NAVY AIRCRAFT INSTRUMENTATION RESEARCH

RESULTS OF MAIN ROTOR RADAR BLADE FLIGHT TESTS, MODEL UH-1B, S/N AF622023

REPORT NO. 204-100-113

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FORT WORTH, TEXAS

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MODEL UH-1B

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FLIGHT TESTS, MODEL UH-1B, S/N
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SUMMARY

Main rotor blades configured with leading edge radar antennas were installed on a Model UH-1B Helicopter, S/N AF 62-2023, Bell No. 543, for both ground and flight tests. At the conclusion of the flight test program, 0.7 hour of ground run time and 16.7 hours of flight time had been logged on the helicopter. The first phase of a two phase major test program was performed during these flights. Load level tests and basic electromagnetic radiation pattern tests comprise Phase I and both were successfully completed.

Load level tests confirmed previous measurements. All measured loads and vibrations were identical to production 204 blades. Flight characteristics are identical to a production UH-1B Helicopter. Radiation pattern tests were very successful and proved that the use of rotor blade antennas as a radar transmitting device is feasible.

Based on preliminary analysis of flight test data, it is concluded that use of the main rotor blades for radar transmissions is practical and warrants further study and tests to determine specific configurations for use in production operations. Final analysis of radiation test data (photographs) were performed by David W. Young & Associates, consultants for this development program.

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INTRODUCTION

The feasibility of using a helicopter main rotor blade as a radar antenna has, for a long period of time, been a question involving application of a practical design. Bell Helicopter Company, in conjunction with David W. Young & Associates, consulting engineers, entered a design study and hardware development program which would ultimately result in a flyable system for flight test evaluation. This program was divided into two phases. Phase I consisted of modification of the leading edges of two standard Model 204 main rotor blades to house a 173-inch leaky waveguide antenna for pattern flight tests. Phase II will be the flight test of a special set of Bell funded blades designed to incorporate both a leading and a trailing edge antenna.

A set of limited life, 44-foot diameter blades from a Model UH-1B were modified for flight tests. The initial set of blades were installed on Bell Model UH-1B, S/N AF 62-2023. Following ground checks, edge bonding of the erosion boot protecting the waveguide antenna failed during the first flight. The blades were returned to the Bonding Department and a new erosion material applied. The blades were reinstalled on the helicopter and used for the remainder of the test program.

Hardware for the blade-to-cabin installation was delivered to Flight Test Engineering for installation on 20 August 1965. Pattern transmission tests were completed on 3 September 1965 and the configuration was removed following Flight 151 on 9 September 1965. At the time of removal, the blades had accumulated 0.7 hour ground run and 16.7 flight hours.

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DESCRIPTION OF TEST EQUIPMENT

HELICOPTER INSTALLATIONS

Blade Waveguide Installation

Two 44-foot diameter blades, P/N 204-011-001-15, S/N's A-2-247 and A2-836, were modified to accept the leading edge radar antennas. The leading edge antenna installation was protected by a vinyl tape installation approximately 4 inches total width (2 inches on top of blade and 2 inches on the bottom) for the full span of each blade. Details of the antenna installation are shown on Drawing No. 299-018-001.

Hub Waveguide Installation

An installation consisting of both fixed and flexible waveguide was made on the standard UH-1B hub as shown on drawing number 299-760-003 and the photograph of Figure 1.

Mast Installation

The main rotor mast was used as a waveguide for this specific installation, drawing number 299-760-003. The main parts of this installation are the upper and lower cones which transition the signal from the standard rectangular waveguide cross section to the circular section of the main rotor mast. The upper mast installation can be seen in Figure 1 with the lower mast installation shown in Figure 2. The upper cone adapter installation was made through use of the special mast nut which was a standard instrumentation nut modified at the top to accept the cone adapter.

Cabin Installation

A Klystron transmitter (emitting CW, Ku band microwave energy) was installed on the instrumentation table in the passenger compartment. This installa-

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DESCRIPTION OF TEST EQUIPMENT - (cont)

tion is shown in Figure 4 and includes the power supply, transmitter, and waveguide attached to the bulkhead. On the rear of the bulkhead, a flexible waveguide (TL-57-4-B-12N) was installed between the lower mast cone and the transmitter waveguide as shown in Figure 2.

INSTRUMENTATION

Load Level Tests

Standard blade instrumentation was used for these tests. All load level data was recorded on two oscilloscopes. Setup and calibration sheets are shown in Appendix C.

Transmission Tests

No special helicopter instrumentation was used for transmission tests since all signal data was recorded at the ground receiving station. Normal pilot and copilot instrument panel data was recorded using airspeed, altitude, and heading instruments. Calibration data for these instruments are shown in Appendix C.

GROUND RECEIVING INSTALLATIONS

The ground receiving equipment, located in the Flight Test Hangar at the Globe facility is shown in Figure 5.

Parabolic Disk

A 42-inch parabolic reflector, Ainslie 444020-33, with a one degree beamwidth was used to receive the signal from the helicopter. A four power 4.6 degree field of view sighting telescope was attached to, and boresighted with, the dish. This enabled the ground station to determine when the helicopter

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DESCRIPTION OF TEST EQUIPMENT - (cont)

Parabolic Disk - (cont)

was on the point of test.

Preamplifier

An LEL KBH-2 low noise preamp and mixer together with a Hewlett Packard 628A signal generator was used to amplify and heterodyne the incoming signal to IF frequency.

Attenuator

A precision attenuator FXR Model Y164-A was inserted between the receiving antenna and the preamp for calibration of the data equipment.

Oscilloscopes

Two Tektronix Model 545B oscilloscopes were used to display the received patterns for photographic analysis. Two recording type Polaroid cameras were used to photograph the displayed images.

Communications

A Bayside portable transceiver was used to communicate with the helicopter.

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McMILLAN UH-1B PAGE 5
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DESCRIPTION OF TESTS

Initial test plans and procedures were drawn in the report of Reference 1.

A major check point of the test program was to determine installation convenience of the modified blades and waveguide hardware. This was accomplished in two phases, first, during the blade installation for the load level flight, and second, prior to the pattern test flights when the aircraft was in work status for the waveguide installation. Results of installation discrepancies are discussed in the test results section.

Load level tests were performed with standard Model 204 blades and with radar blades for comparison purposes. Ground tests for blade balancing and tracking checks preceded flight tests. Flight test conditions checked were hover, climb, and level flight. Records were obtained in each condition using the instrumentation listed in Appendix C.

Transmission tests were performed at Bell Helicopter's Globe facility. A ground receiving station complete with instrumentation and photographic facilities was set up in the flight test hangar. Figure 5 shows the ground station setup. Three basic check points over the terrain were chosen to accommodate the positioning of the helicopter in the fixed parabolic reflector cone. The parabolic reflector sighting telescope was used to position the helicopter in hover, and to mark the point of photography during fly-by's through the point on other maneuvers. Three points were checked: 800, 1800, and 2500 feet above the ground. Flight conditions performed at these points were hover, level flight up to 120 knots IAS, vertical climb, vertical descent, angular climb, and angular descent. Photographs were obtained "on the point" during each maneuver. Level flight points were performed at compass headings of 0, 45, 90, 135, 180, 225, 270 and 315 degrees.

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MODEL UH-1B PAGE 6
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INSTALLATION AND TEST RESULTS

Load Level Tests

Prior to flight with the radar blade configuration, a base data flight was made using the production 204 configuration. A standard 204 hub installation was used for both blade configurations. For comparative purposes, the data from the base flight is shown in conjunction with the radar blade data in Appendices D and E.

When the radar blades were installed, a ground run was made to check tracking and balance. The blades were trimmed out and two disc weights were removed from each side. Flight with these blades was very good from a vibration standpoint. Handling characteristics were normal for a UH-1B. Load level data was obtained on two flights, 143A and 143B, with center of gravity locations of 125.4 F.S. and 133.2 F.S., respectively. Figures 11 through 78 of Appendix D present the plots of these two flights. Tabular data is shown in Figures 85 through 136 in Appendix E. For all practical purposes, the radar blades are identical to the production 204 blades used for base data.

Installation Trials

Following the load level tests, the helicopter was configured with the necessary waveguide hardware and associated equipment to permit transmission of electromagnetic signals to a ground station. The specific installations are discussed in a previous section of this report. Since this was the first installation of its kind in a helicopter, a discussion of its adaptability to the helicopter is of prime importance.

Generally speaking, the waveguide installation on the hub was performed with relative ease. The only discrepancy encountered in installation was the necessity of drilling oversize holes in the retaining cap (299-760-001-15) which holds the "T" waveguide to the upper mast adapter cone. The holes were opened up with a #26 drill. This operation permitted an eleven degree offset of the "T" waveguide to the main rotor centerline.

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INSTALLATION AND TEST RESULTS - (cont)

Installation of main rotor mast hardware was also relatively easy. The purpose of this hardware is to convert the mast to a waveguide link between the blade and the cabin transmitter equipment. This is the point where blade rotation is accommodated through use of the lower cone installation. The first piece of equipment installed was the lower cone. This was made using a special tool which allows the cone to be lowered to its position in the bottom of the mast. Two discrepancies occurred during this operation. First, the special tool failed, and second, the lower cone was accidentally lowered too far into the mast.

The special tool failed when the retaining ring holding the small Teflon cone slipped out of place. This was caused by the extremely high force required to freeze the adapter cone to the tool cone in order to rotate the adapter in the mast for insertion of the set screw (204-010-224-1). This problem was alleviated through use of a very tight fitting washer between the Teflon surface (which had a radius) and the locking ring.

The lower cone was accidentally pushed out of the bottom of the mast causing the Teflon bearing surface to strike the transmission case (see drawing 299-760-003). Fortunately, no damage was done to the Teflon bearing, although this could easily occur in a field installation when maintenance personnel are trying to locate the set screw hole in the lower cone. A fix for this discrepancy is discussed in the recommendations of this report. A photograph of the lower cone following removal at the conclusion of flight tests is shown in Figure 3. Note the Teflon dust worn from the seal as it worked into its seated position.

The upper cone adapter installation was very easily installed.

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INSTALLATION AND TEST RESULTS -(cont)

Electromagnetic Radiation Tests

Results of the transmission tests are being analyzed by David W. Young and Associates, Inc. and will be published in a report on JANAIR Contract Nonr 4148(00). The final report will combine this flight test report and the analytical report of David W. Young and Associates.

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CONCLUSIONS AND RECOMMENDATIONS

From the installation and tests of the main rotor radar blades performed on the UH-1B Helicopter, S/N AF 62-2023, the following conclusions can be drawn:

1. The installation is relatively easy from a maintenance standpoint.
2. The helicopter flying characteristics with this installation is identical to a production type 204 rotor blade installation.
3. The life of the flexible waveguides (used to connect the blade waveguide to the hub waveguide) is unsatisfactory for blade to hub use. These guides failed after 17.4 hours total time. The pylon to bulkhead flexible waveguide was satisfactory for this same period of time.
4. The leading edge protective coat bonding is unsatisfactory. The best time was approximately 15 hours of flight, which is unsatisfactory for a production configuration.

The following recommendations are made from operational experience gained on these tests and are applicable to the specific configuration of hardware tested on this program:

1. A very tight fitting washer be installed on the special "T" handle installation tool used to position the lower mast cone.
2. The design of the lower mast cone should be changed to prevent damage to the Teflon bearing surface during installation. A collar should be made as part of the lower mast cone. The collar centerline should be approximately 4.5 inches above the bottom edge of the cone. The outside diameter should be of sufficient dimension to rest on the inside lip of the mast, thus preventing the cone from slipping down the shaft to a point

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CONCLUSIONS AND RECOMMENDATIONS - (cont)

where the Teflon bearing surface would be damaged.

3. A new type of hub-to-blade flexible wave-guide should be researched.
4. A new type (or method of attaching the old type) of main rotor blade leading edge protective coating should be researched.

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APPENDIX A
Photographs

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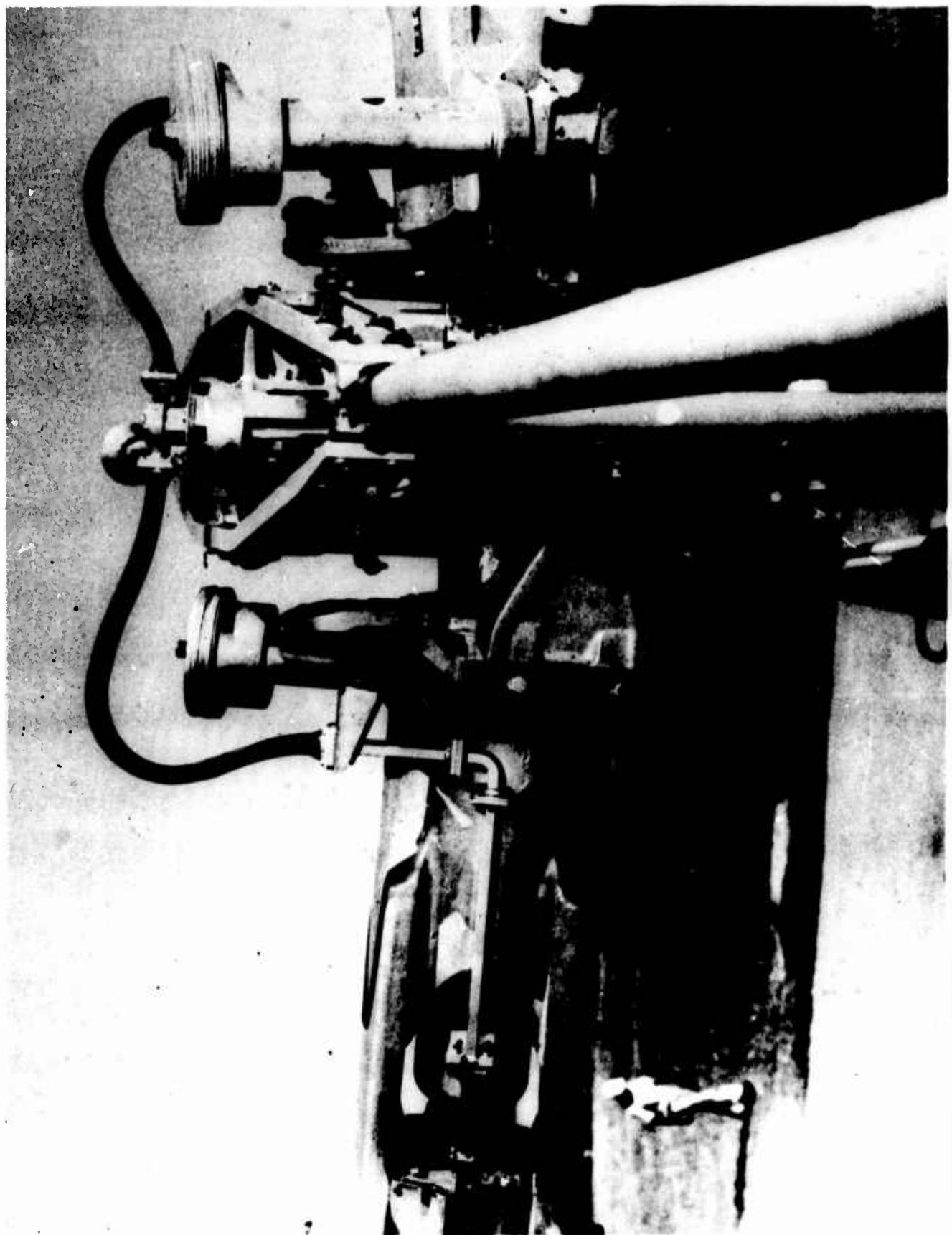


Fig. 1 - Model UH-1B, S/N AF 62-023; Main Rotor Blade Radar - Upper Mast Assembly Installation

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Fig. 2 - Model UH-1B, S/N AF 62-023; Main Rotor Blade
Radar Installation - Lower Mast Assembly

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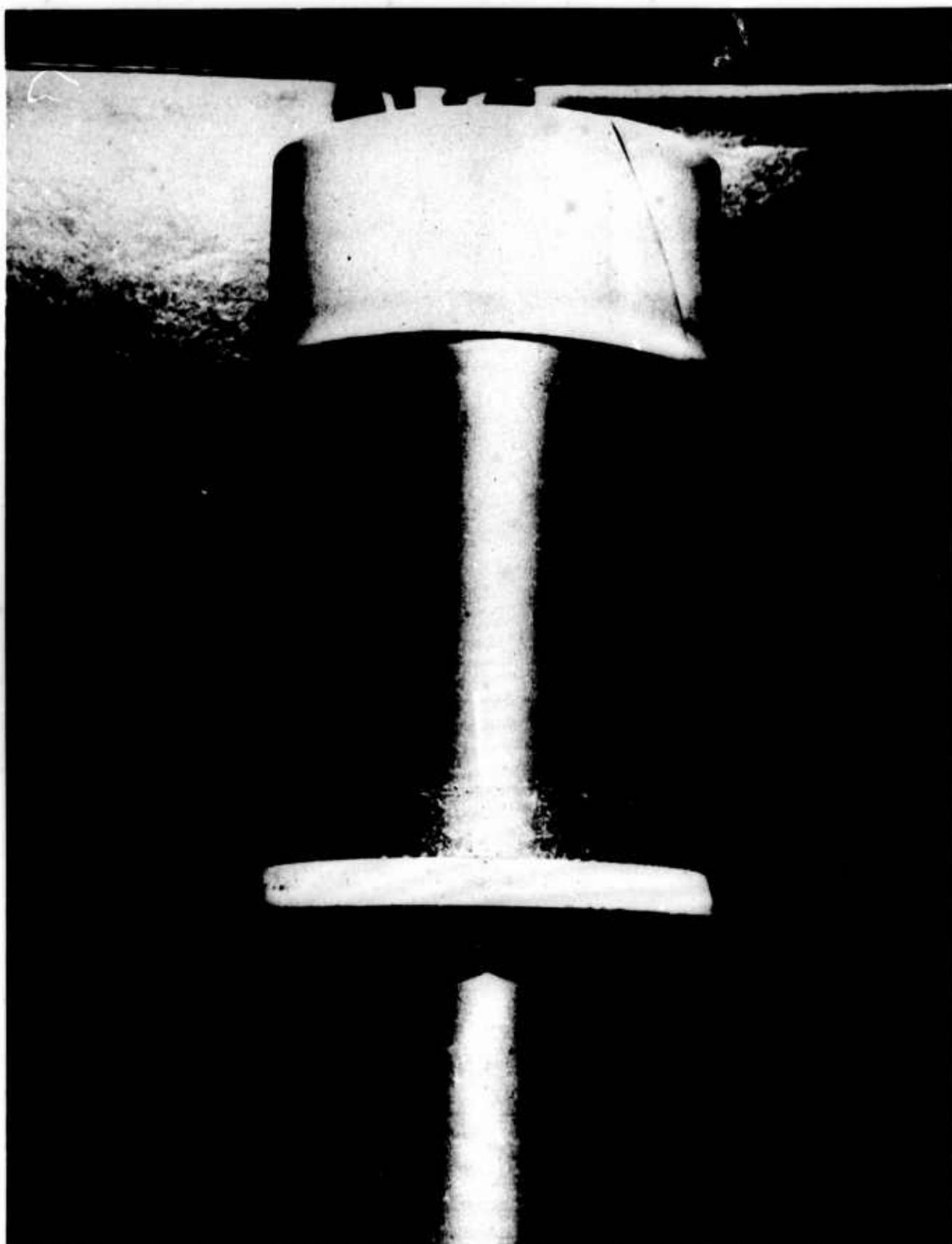


Fig. 3 - Model UH-1B, S/N AF 62 023; Main Rotor Blade
Radar Installation - Lower Mast Cone Removal
From Helicopter Following 16.1 Total Operating Hours.

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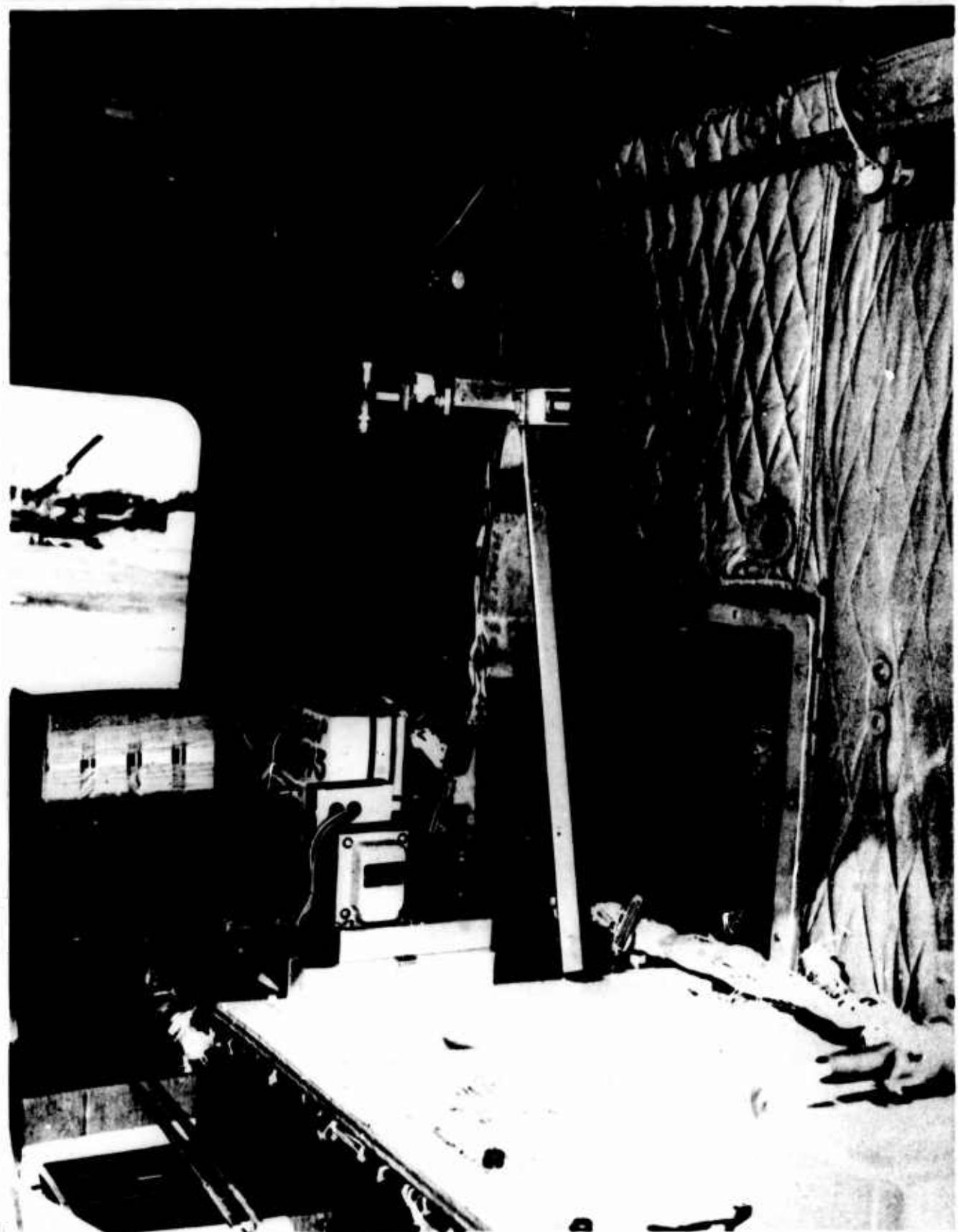


Fig. 4 - Model UH-1B, S/N AF 62 023; Main Rotor
Blade Radar Installation - Transmitter
& Power Supply Mounted in Cabin

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MODEL UH-1B PAGE 16
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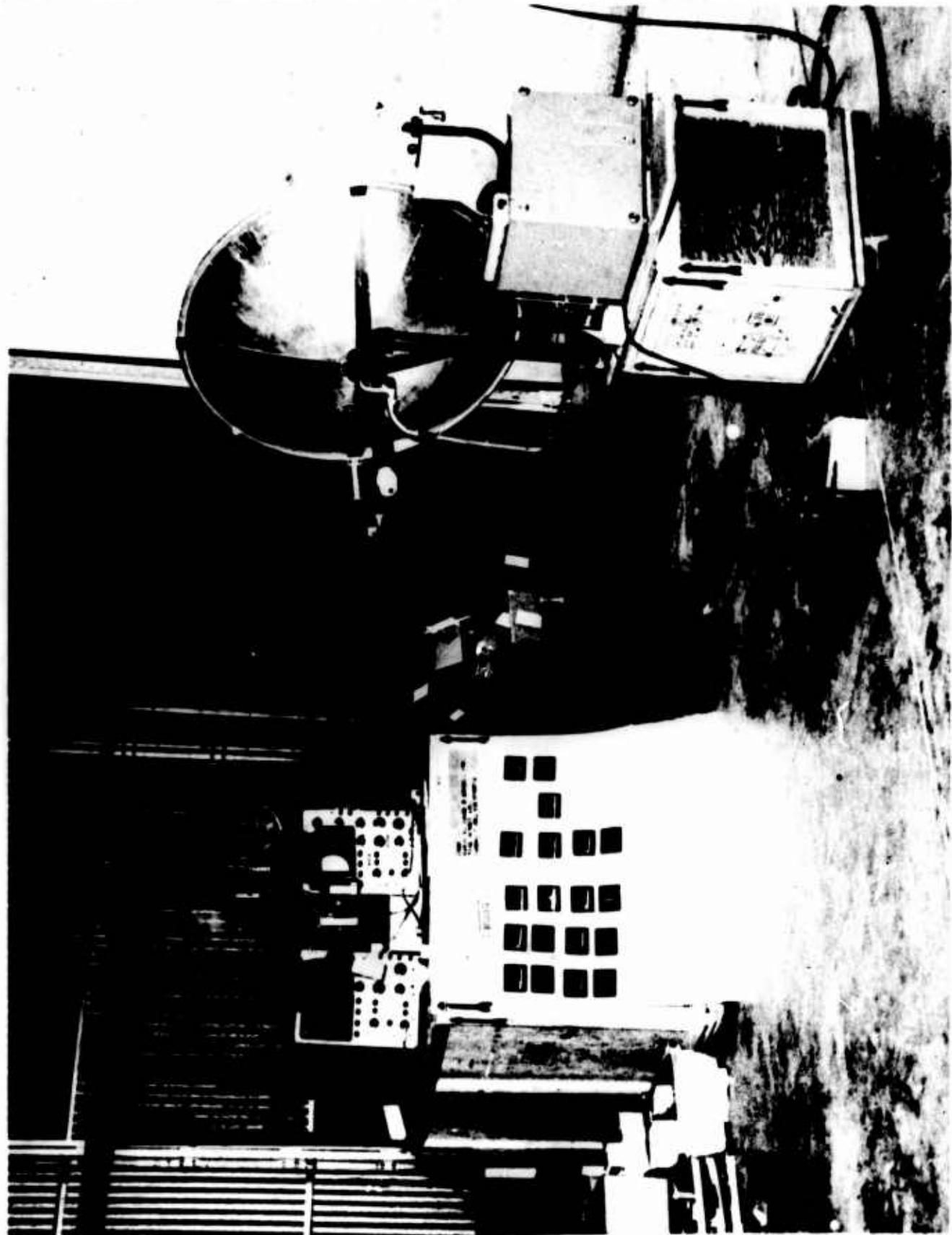


Fig. 5 - Ground Station Equipment for Model UH-1B Flight
Tests of Main Rotor Blade Radar Installation
(299-760-003)

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APPENDIX B

Block Diagrams of Electronic
Equipment Used in Helicopter
and Ground Station Installa-
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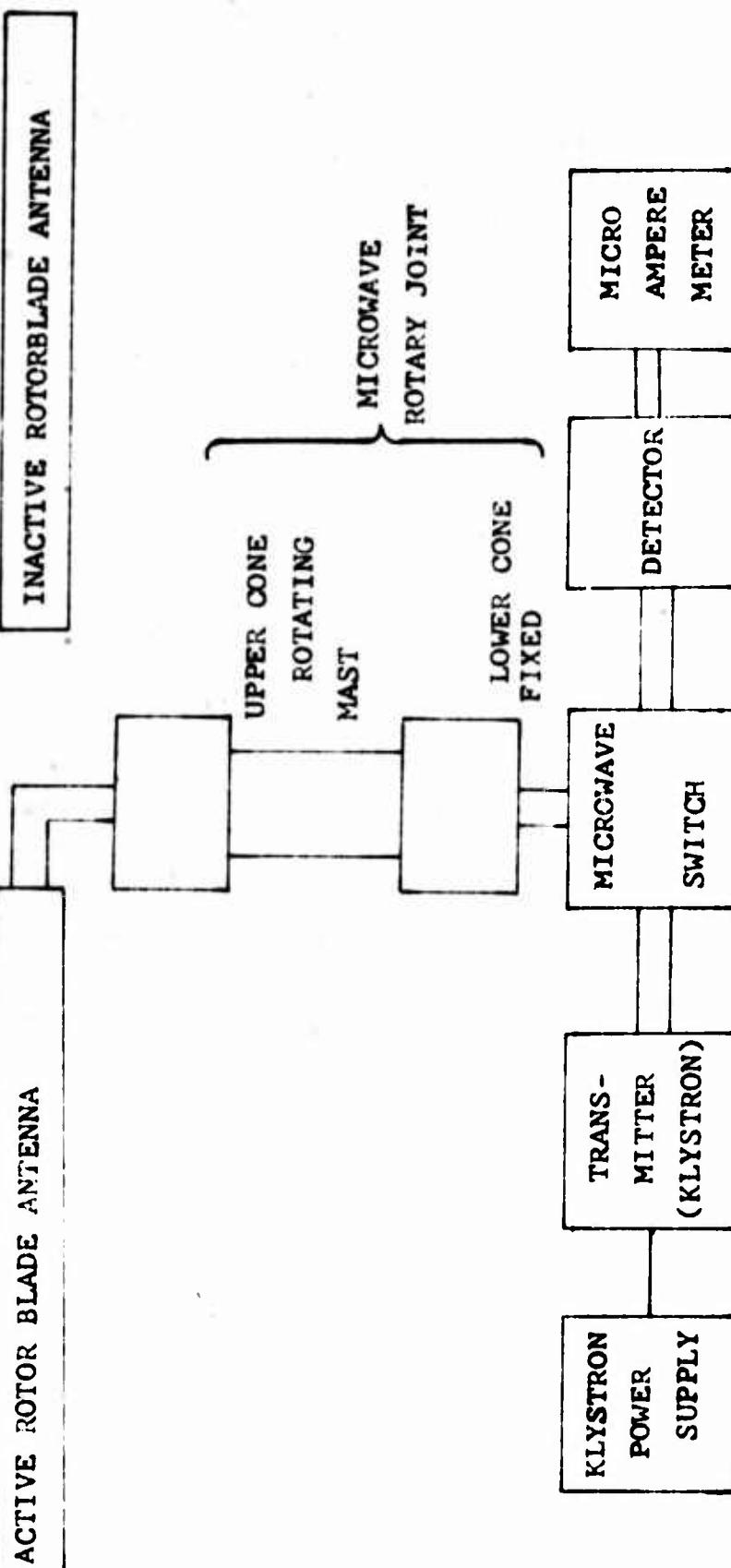


FIGURE 6

ELECTRONIC EQUIPMENT MOUNTED
IN UH-1 HELICOPTER
FOR
ROTOR BLADE ANTENNA PATTERN FLIGHT TESTS
LEADING & TRAILING EDGE ANTENNAS

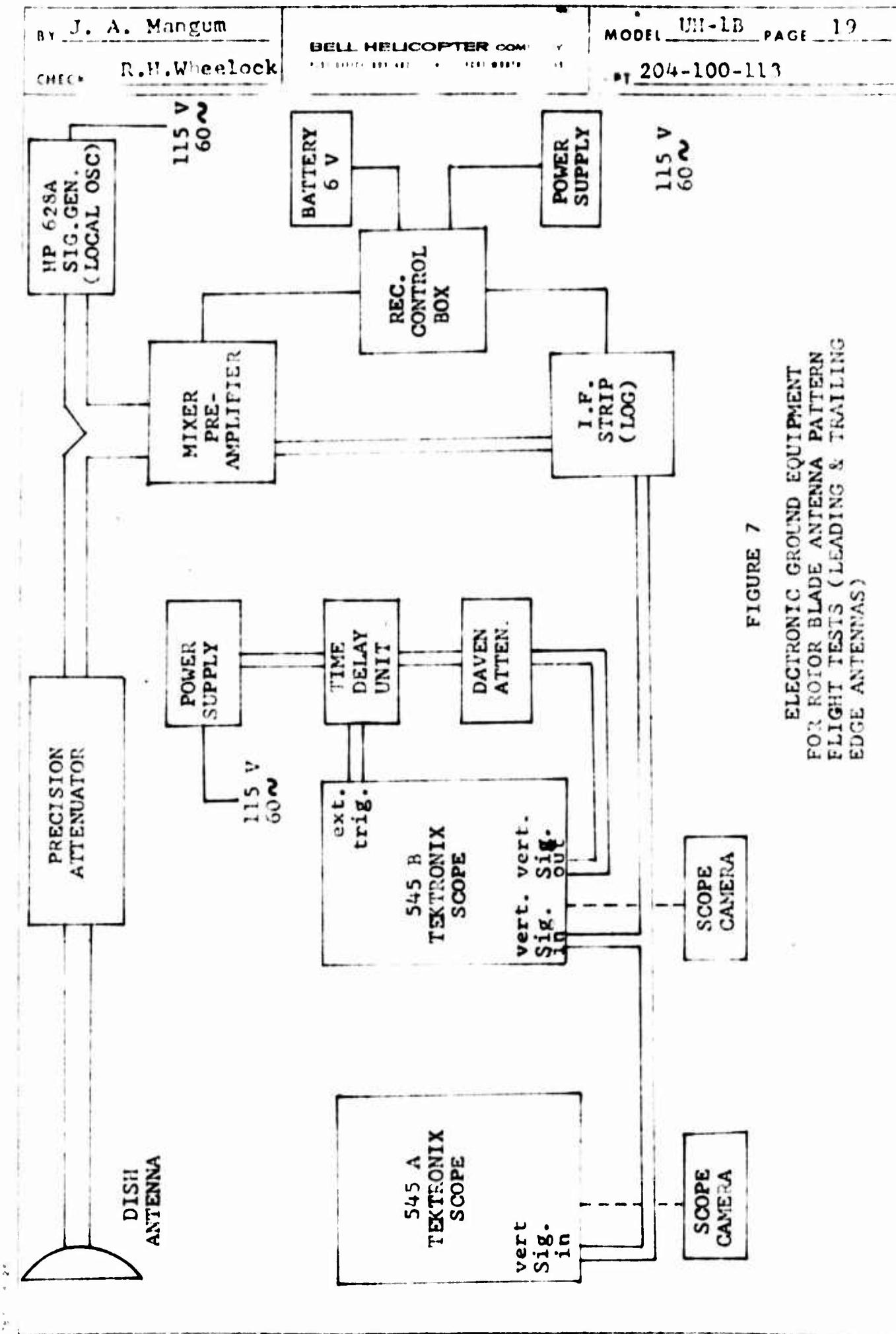


FIGURE 7

ELECTRONIC GROUND EQUIPMENT
FOR ROTOR BLADE ANTENNA PATTERN
FLIGHT TESTS (LEADING & TRAILING
EDGE ANTENNAS)

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APPENDIX C
Instrument Calibrations and
Oscillograph Set-Up Sheets

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MODEL UH-1B PAGE 21
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STANDARDS AND CALIBRATION SECTION DATA SHEET

DESCRIPTION Airspeed DATE CALIBRATED 4/14/65
MODEL/TYPE MS-28-45-WI CALIBRATION PERIOD 7/14/65
RANGE Aerosonic Corp.
MFG. 5799
SERIAL NO 727 EMC NO.
LAB. NO. CALIBRATED BY: E. R.

STD.	INDICATED
KNOTS	KNOTS
0	0
10	10
20	17
30	27
40	37
50	48
60	61
70	70
80	80
90	89
100	100
110	110
120	120
130	131
140	141
150	149

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STANDARDS AND CALIBRATION SECTION DATA SHEET

DESCRIPTION Altimeter DATE CALIBRATED 4/14/65
MODEL/TYPE A-80-AAU-8 A/A CALIBRATION PERIOD 7/14/65

RANGE 80,000 Ft.

MFG. Kollsman Inst. Corp.

SERIAL NO. 30891 BHC NO. _____
LAB. NO. 1029 CALIBRATION BY: E.K.

STD. ALT. IND. ALT.
PRESS.FT. PRESS.FT.

0	-20
500	500
1000	1000
1500	1500
2000	2000
2500	2500
3000	3000
3500	3500
4000	4000
4500	4500
5000	5000
6000	6000
7000	7010
8000	8020
9000	9020
10000	10020
11000	11000
12000	12000
13000	13000
14000	14000

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STANDARDS AND CALIBRATION SECTION DATA SHEET

DESCRIPTION Tachometer DATE CALIBRATED 4/14/65
MODEL/TYPE YDJ67-FBC-1 CALIBRATION PERIOD 7/14/65
RANGE ENG 0-7200 Rotor 0-360
MFG. General Electric
SERIAL NO. W11695 BHC NO.
LAB. NO. 1028 CALIBRATED BY E.K.

STD RPM	ENGINE	ROTOR
2 Pole Gen.	RPM	RPM
0	0	0
800	1250	61
1600	2525	122
2400	3825	183
3200	5100	245
3800	6025	290
4000	6325	305
4200	6625	320
4400	6925	335
4600	7225	350

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INSTRUMENTATION OSCILLOGRAPH SET-UP

ENGR. Goodman MODEL UH-1B SHIP NO. 543 DATE 8-18-65 SER. NO. 513TECH. WakefieldOsc. No. 1 of 1 Flt. 142A

PURPOSE OF FLIGHT Rotor Blade Antenna G/Run 37

ITEM MEASURED	LAB. NO.	LAB. NO.	GALVO UNITS	STA NO.	100K C.E.	REF. VALUE	SIG. POS	SIG. SWT	SHIP CABLE NO.	BAL. BOX NO.	BAL. CHAN
1 M/R Blade Bm	3709TP	312	IN/LBS	140	11,413	5,005	R	53	1		
2		312		84	14,733	10,202	R	49	2		
3		312		60	22,323	12,825	R	54	3		
4		312		35	35,745	16,340	R	48	4		
5 Pitch Link (Red)	1588TP	339	LBS		4,455		0	50	5		
6 Drag Brace	1577TP	312	LBS		12,600		0	51	6		
7 Yoke Bm	1576TP	312	IN/LBS		6.0 135,360	21,024	R	47	7		
8 Blade Ch.	3709TP	315			140 52,800		R	52	8		
9		315			60 130,150		R	55	9		
10 Yoke	1576TP	315			6.0 73,720		R	46	10		
11 Flapping		315	% Full Throw				0	68	11		
12 Pilots Seat Vert Accel	374		G's		1.81		0	11	12		
13 Copilots Seat Vert Accel	345		325		1.83		0	15	13		
14 C.G. Vert Accel	348		325		1.80		R	21	14		
15 R/H Cyc. Boost Tube	1583TP	315	LBS		2,650		0	23	15		
16 L/H Cyc. Boost Tube	1582TP	315	LBS		2,625		0	24	16		
17 Collective Boost T.	1581TP	339	LBS		2,500		0	25	17		
18 M/R Azimuth		323							18		

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APPENDIX D
Vibration and Load Plots

MODEL UH-1B 543
SHIP AF62-2023
FLT 135A
DATE 9 JULY 65

OTM RPM
G 924
B 305

CONF 10, BASELINE STD BLADES

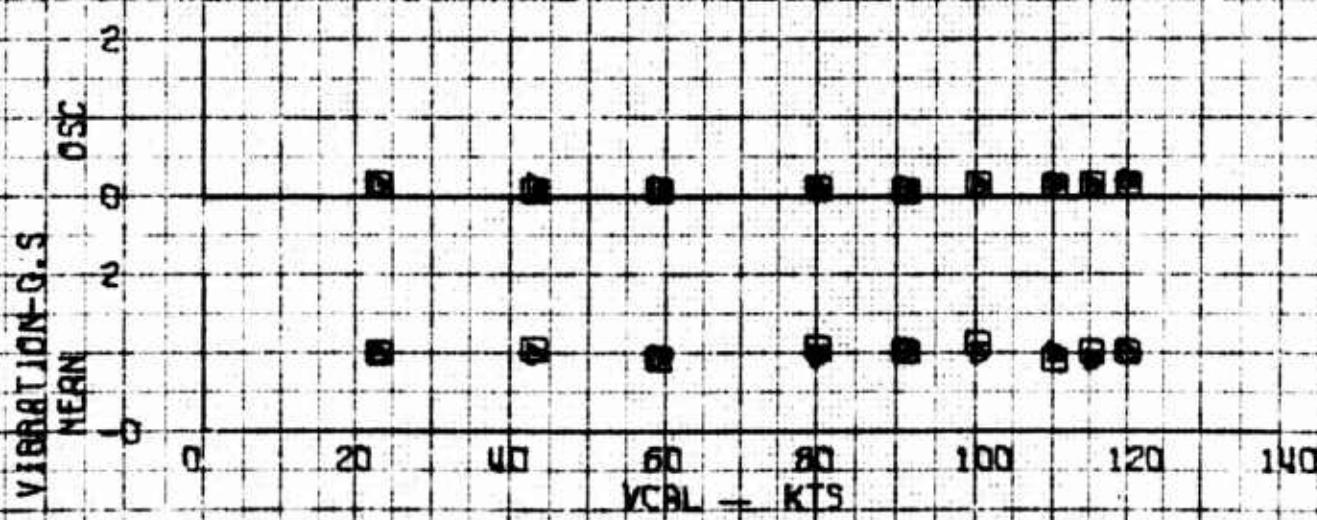


FIG. 13. PILOT VERT ACCL. VS. AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STR 125.4
ALTITUDE 5000 FT MO

07/17/65

MODEL UH-1B 543
SHIP RE 52-2023
FLT 143-A
DATE 19 AUG 55

STM RPM

◻ 324

► 310

CONFIG. LOAD SURVEY - FROM PTENMR R/R

FL 1000

.480

0.51 .200

.000

VIBRATION

0

20

40

60

80

100

120

140

VCRAL - KTS

FIG. 13 PILOT VERT VIBRATION VS AIRSPEED
STABILIZED LEVEL FLIGHT

G.W. 7500 LBS C.G. STA 125.4

ALTITUDE 3000 FT ND

08/25/65

MODEL UH-1B 543
SHIP AF62-2023
FLT 135A
DATE 9 JULY 65

STM RPM
G 324
D 305

CONFIG. BASELINE STD BLADED

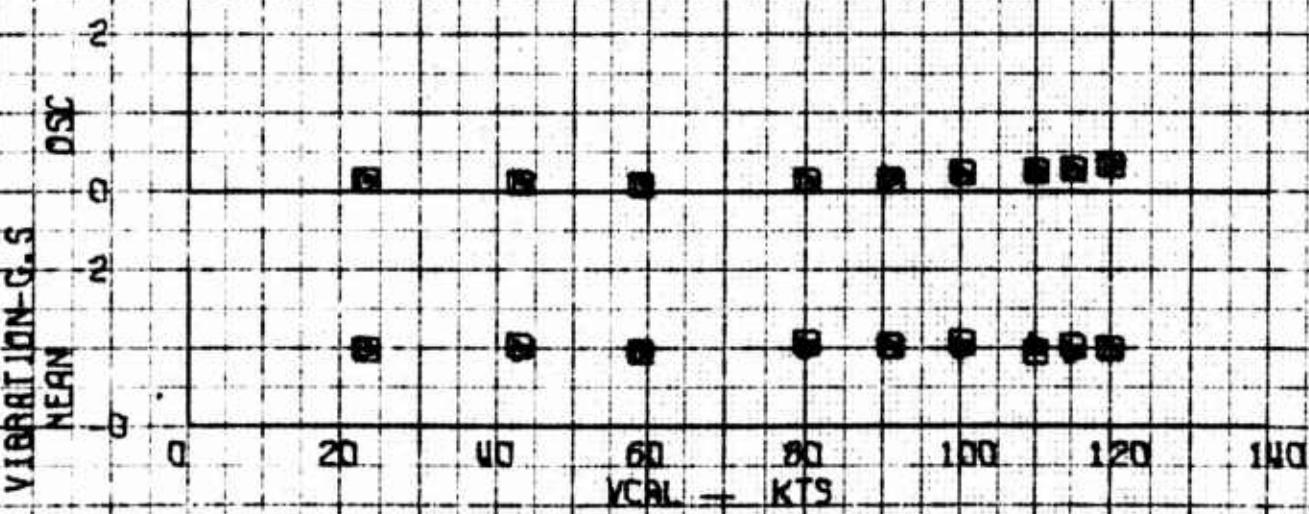


FIG. 14 CO-PILOT VERT ACCEL VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.4
ALTITUDE 3000 FT HD

07/17/65

STM RPM
320
310

CONF 10. 1990 SURVEY - PROBES ON THE PIA

MODEL LH-18-5113

2012 09 02 2023

CH 113-A

DATE 10 MARCH 65

中華書局影印

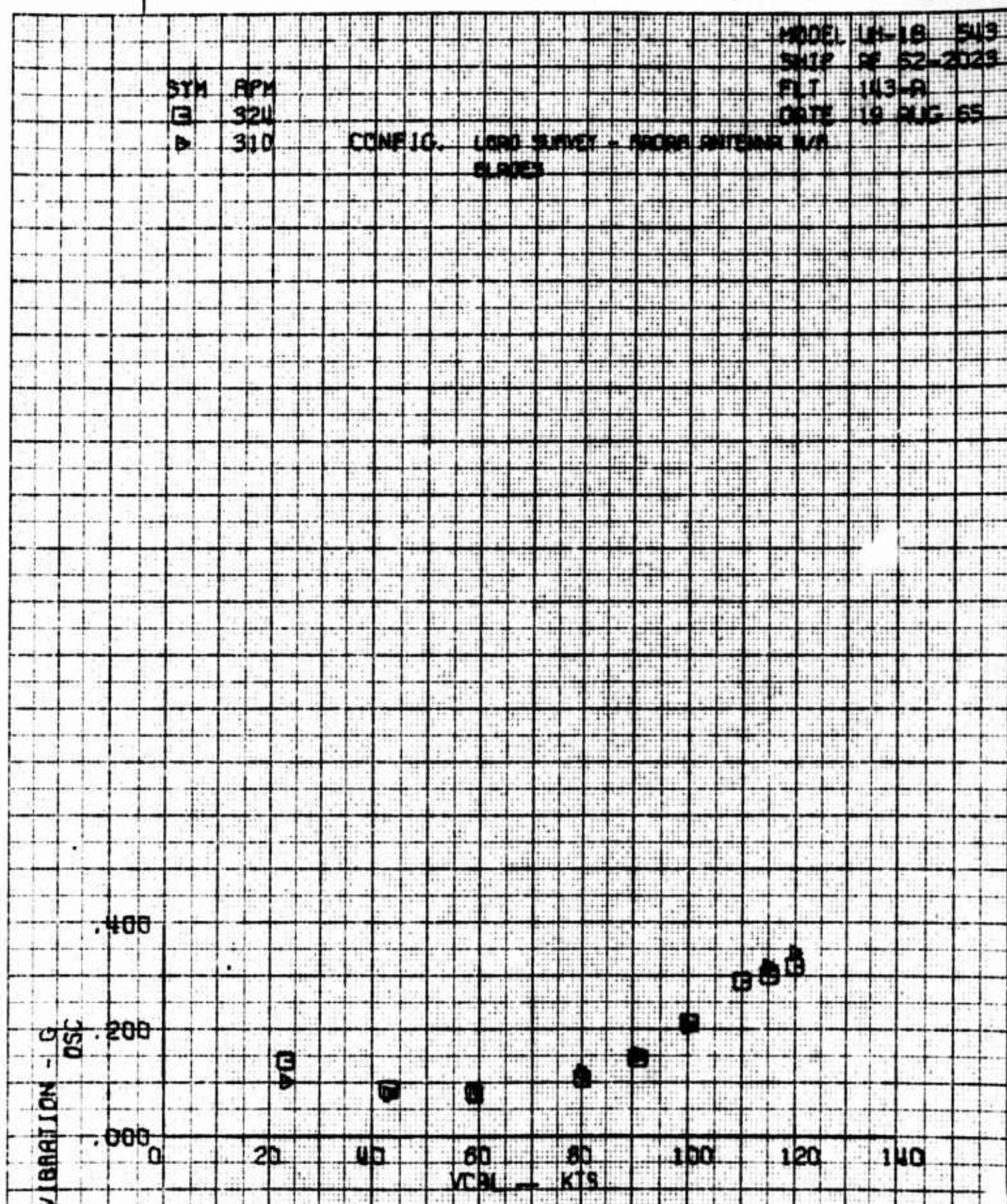


FIG. 15. CO-PILOT VERT. VIBR. VS. AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 L.B. C.G. STA. 125.4
ALTITUDE 3000 FT MD

08/25/65

CTM RPM
G 324
D 309

CONFIG. BASELINE CTD BALOED

MODEL UH-1B 543
SHIP AF62-2023
FLT 135A
DATE 9 JULY 65

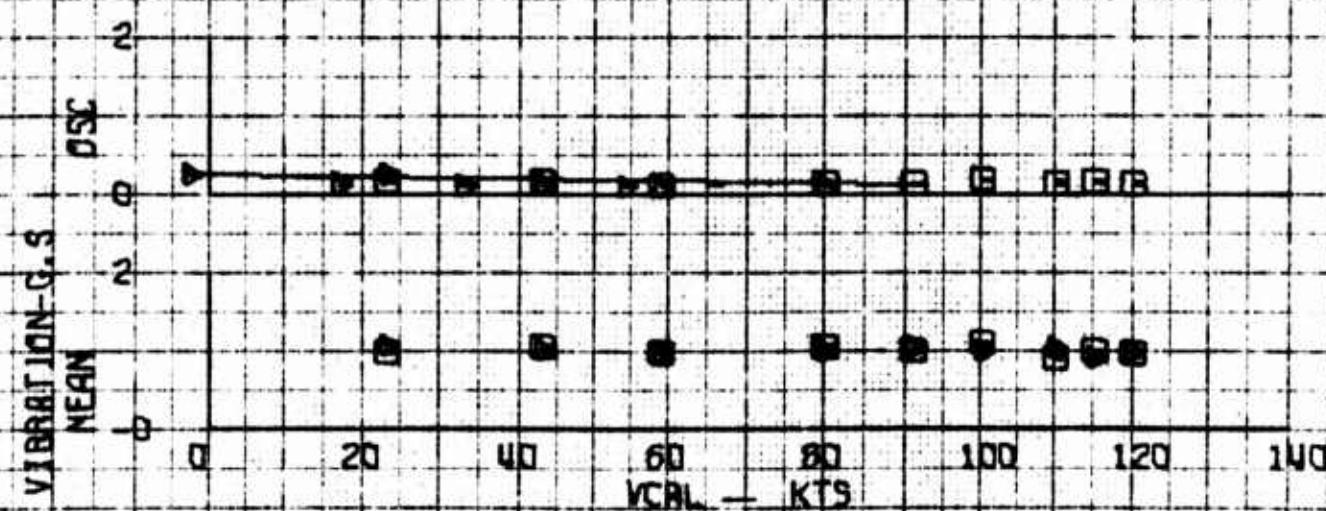
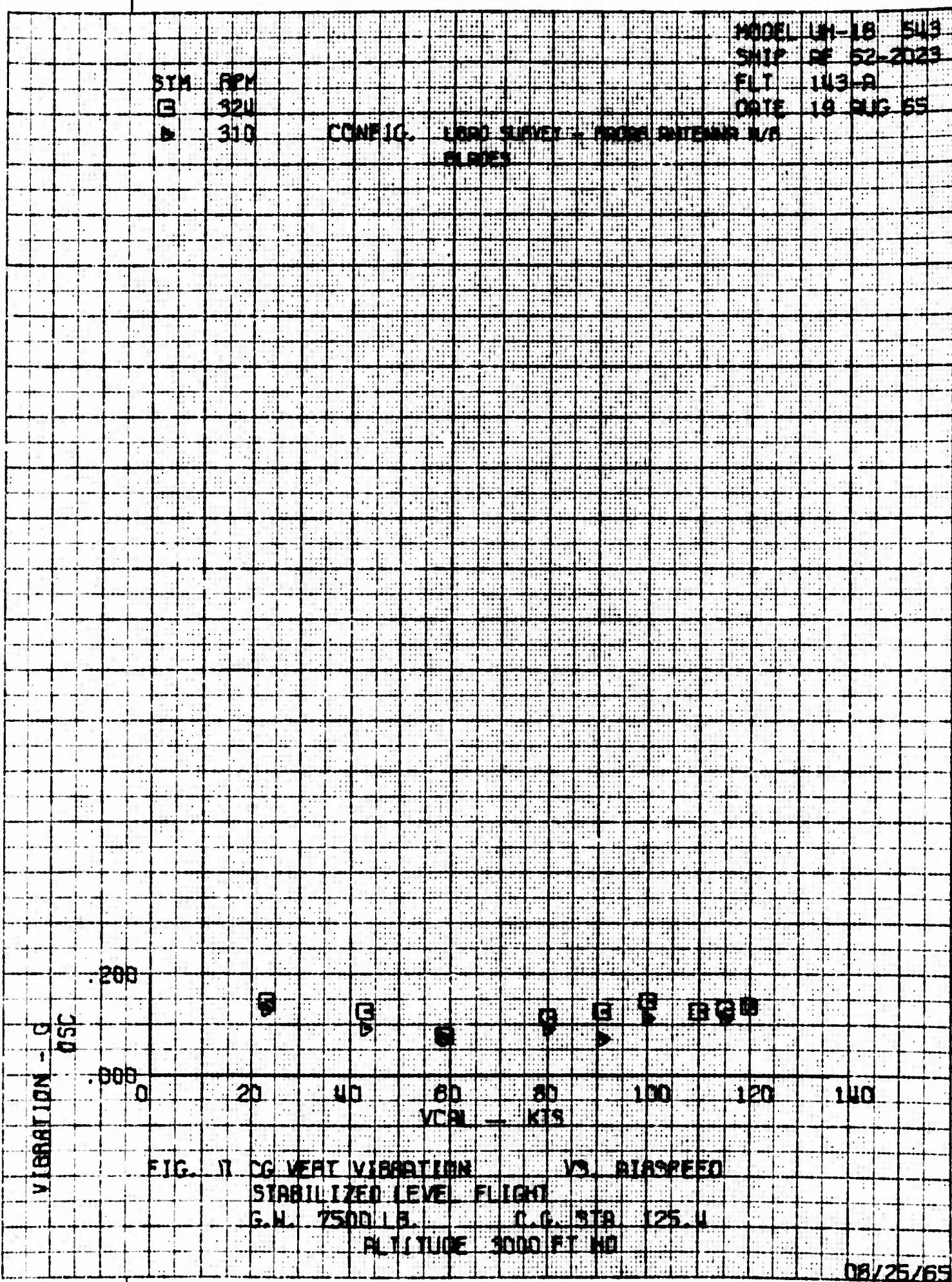


FIG. 16 C.G. LEAT BACEL VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.4
ALTITUDE 3000 FT HD

07/17/65



MODEL UH-1B 543
SHIP AF62-2023
FLT 135A
DATE 9 JULY 65

STM RPM
G 324
D 309

CONFIG. GASOLINE DTD PLACED

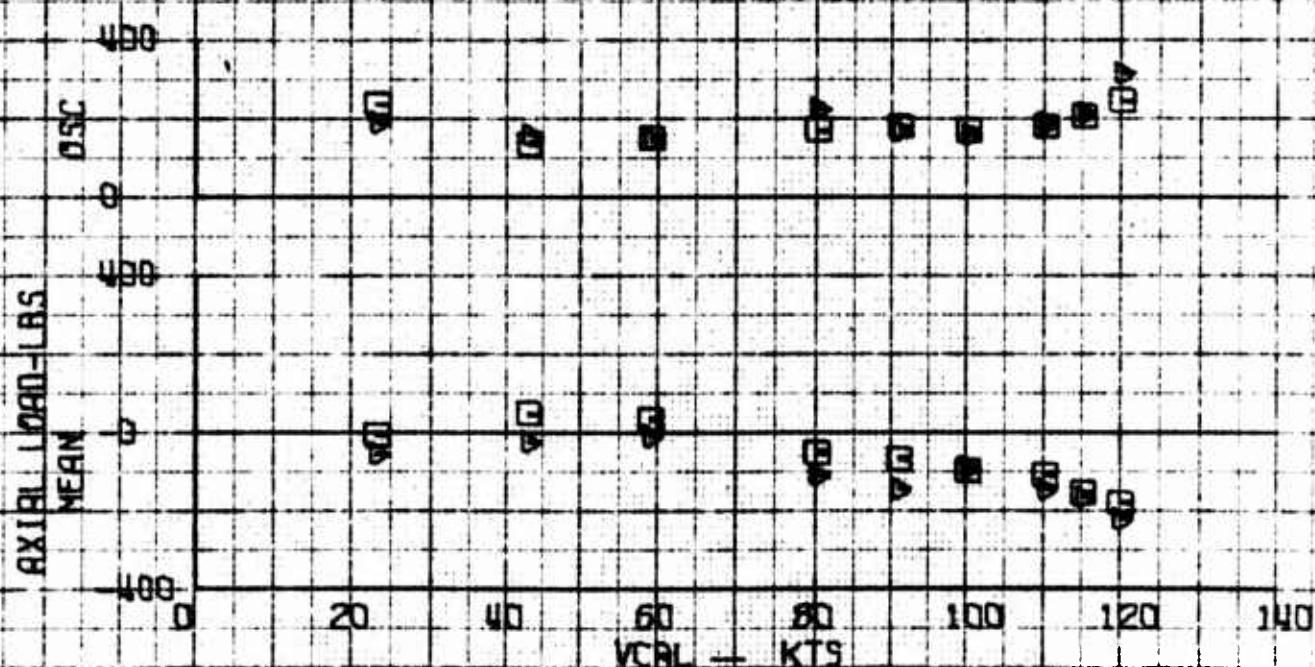


FIG. 18 UH-1B CTC BOOST TUBE VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.4
ALTITUDE 9000 FT HD

07/17/65

BTM RPM
② 920
③ 310

CONFIG. LOAD SURVEY - PROBE PATTERNS M/A
STABILIZED

MODEL UH-1B 543
SHIP NO 52-2023
FLT 143-A
DATE 19 AUG 65

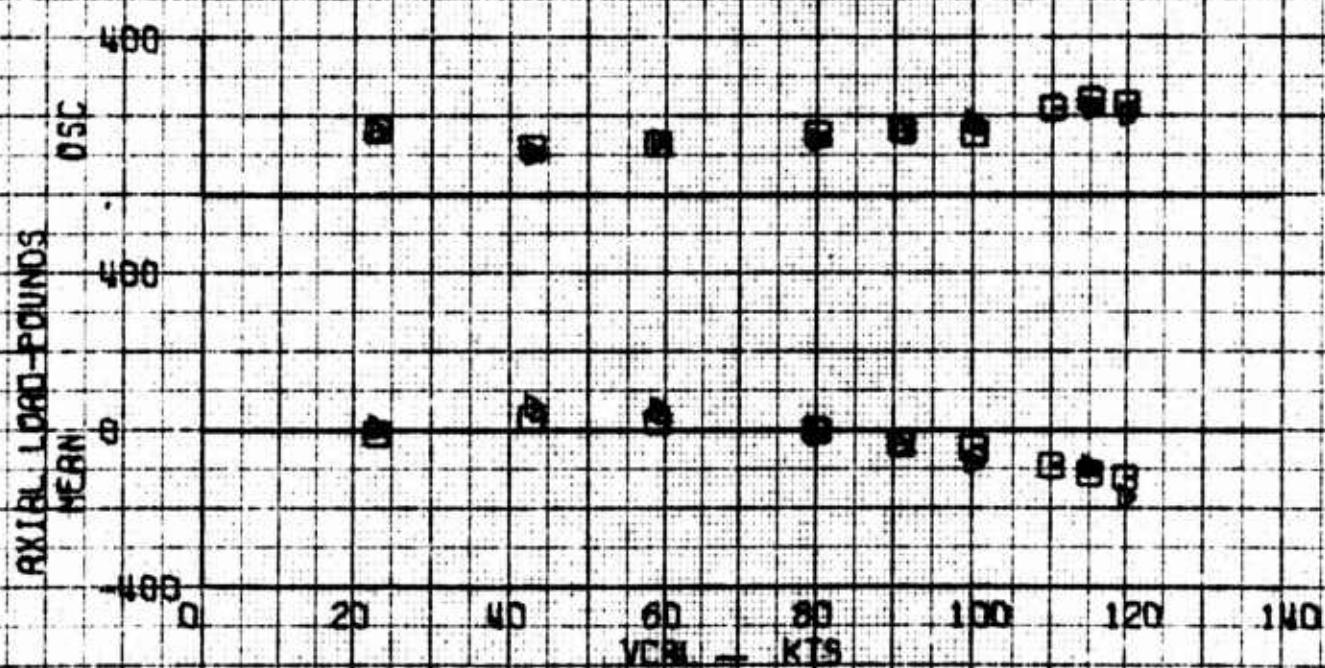


FIG. 19 /M CTC BOOST TUBE VS AIRSPEED
STABILIZED FLIGHT
G.W. 7500 LB. C.G. STA 125.4
ALTITUDE 3000 FT MO

08/25/65

MODEL UH-1B 543
SHIP AF62-2023
FLT 135P
DATE 9 JULY 65

STM RPM
S24
S09

CONFIG. BASELINE STD BLADES

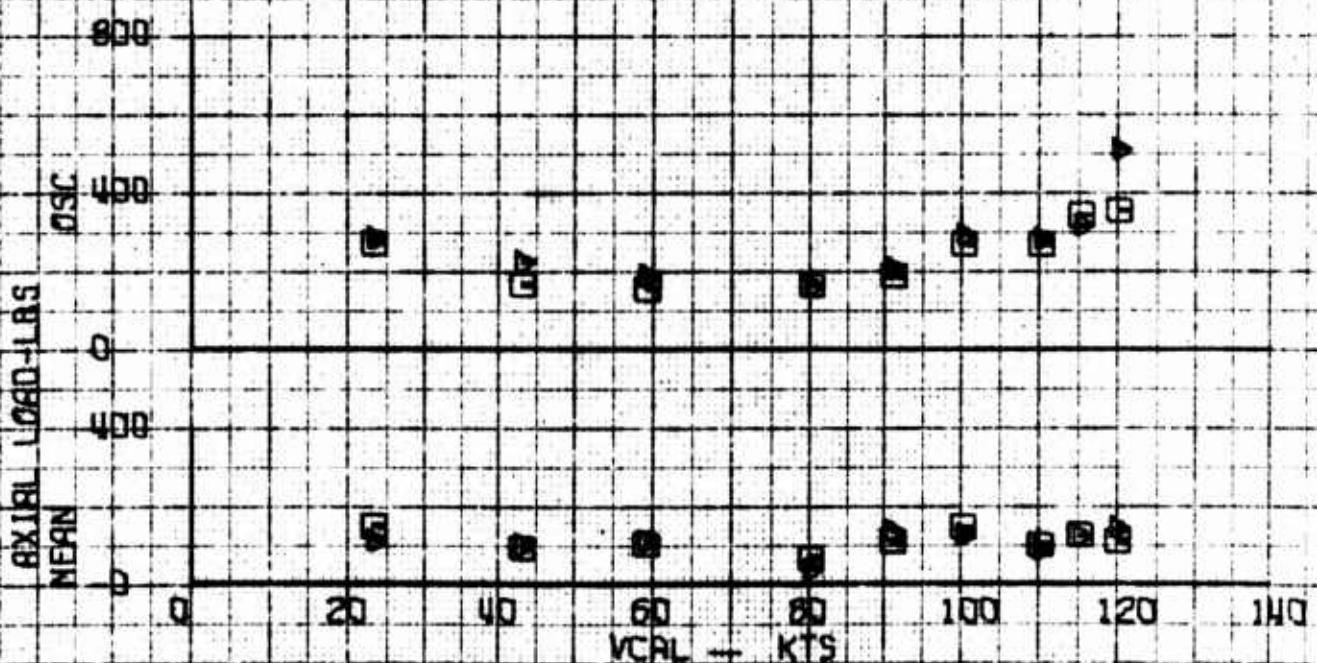


FIG. 20 R/H CTC BOOST TUBE VS. AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LBS C.G. STA 125.4
ALTITUDE 3000 FT HD

07/17/65

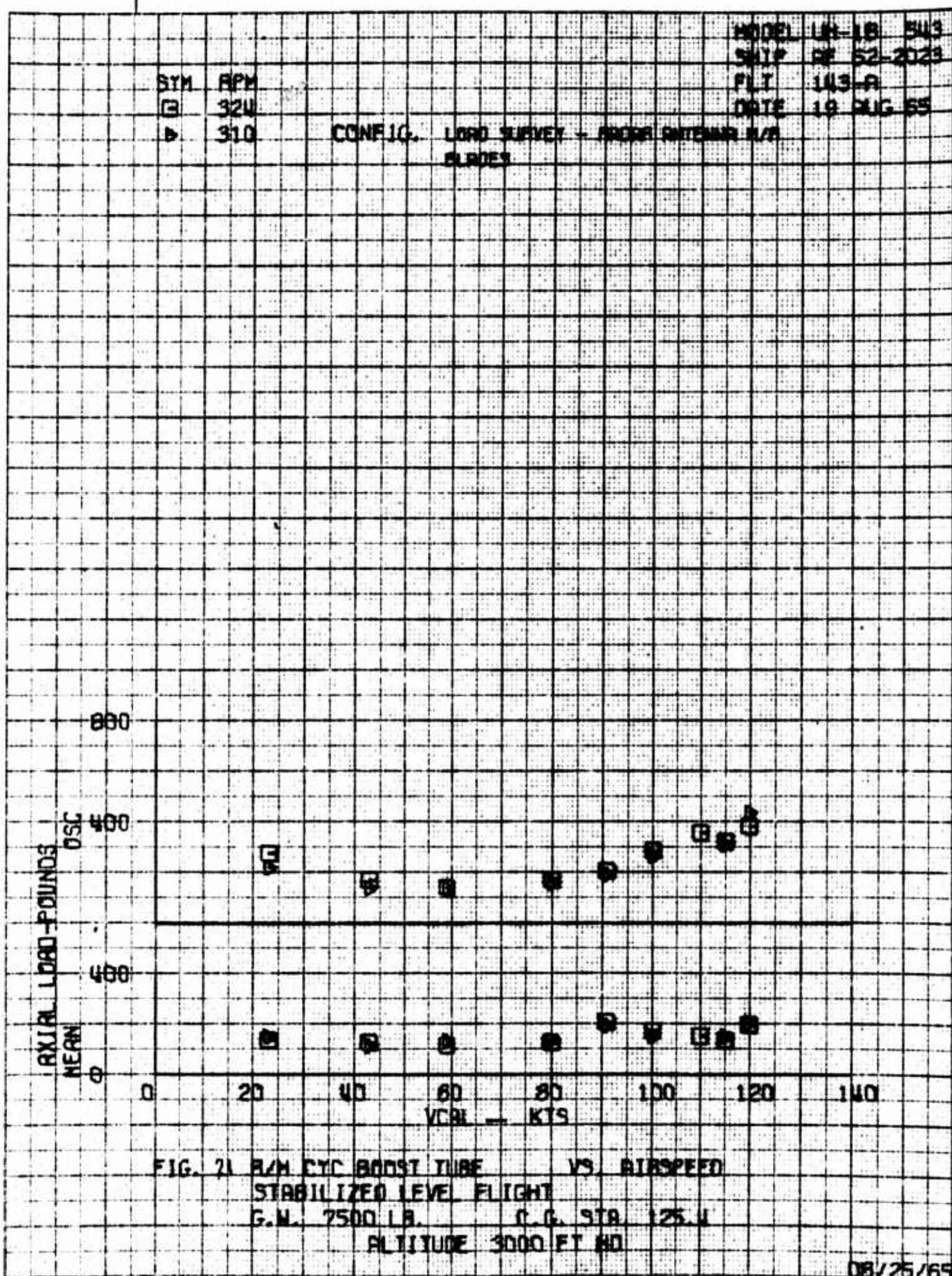
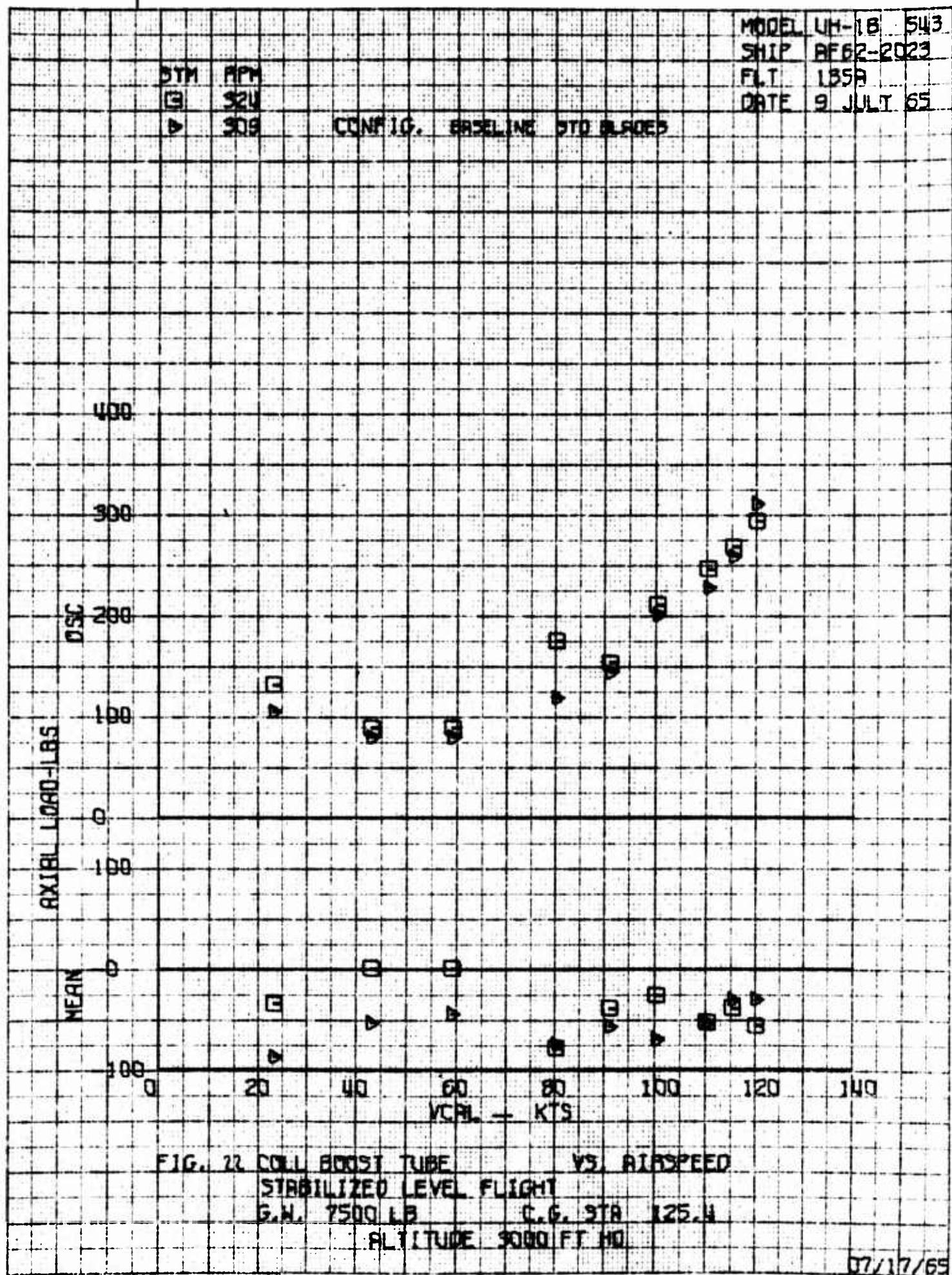
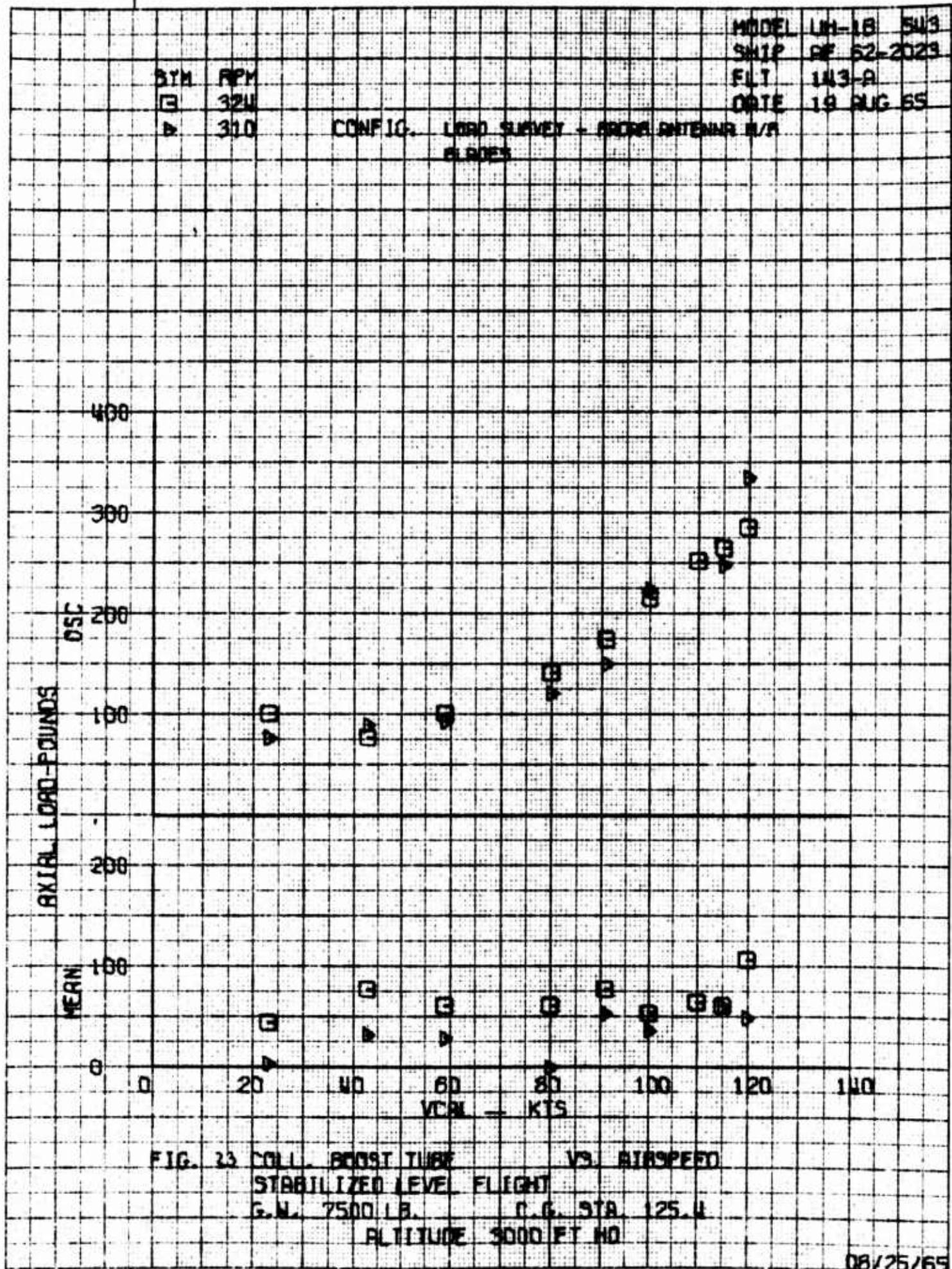


FIG. 21 R/M CTC BOOST TUBE VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB. C.G. STA. 125.4
ALTITUDE 3000 FT M.O.





08/25/65

MODEL UH-1B 543
SHIP AF62-2023
FLT 135A
DATE 9 JULY 65

SIM RPM
G 324
D 309

CONFIG. FUEL LINE DTO PLACED

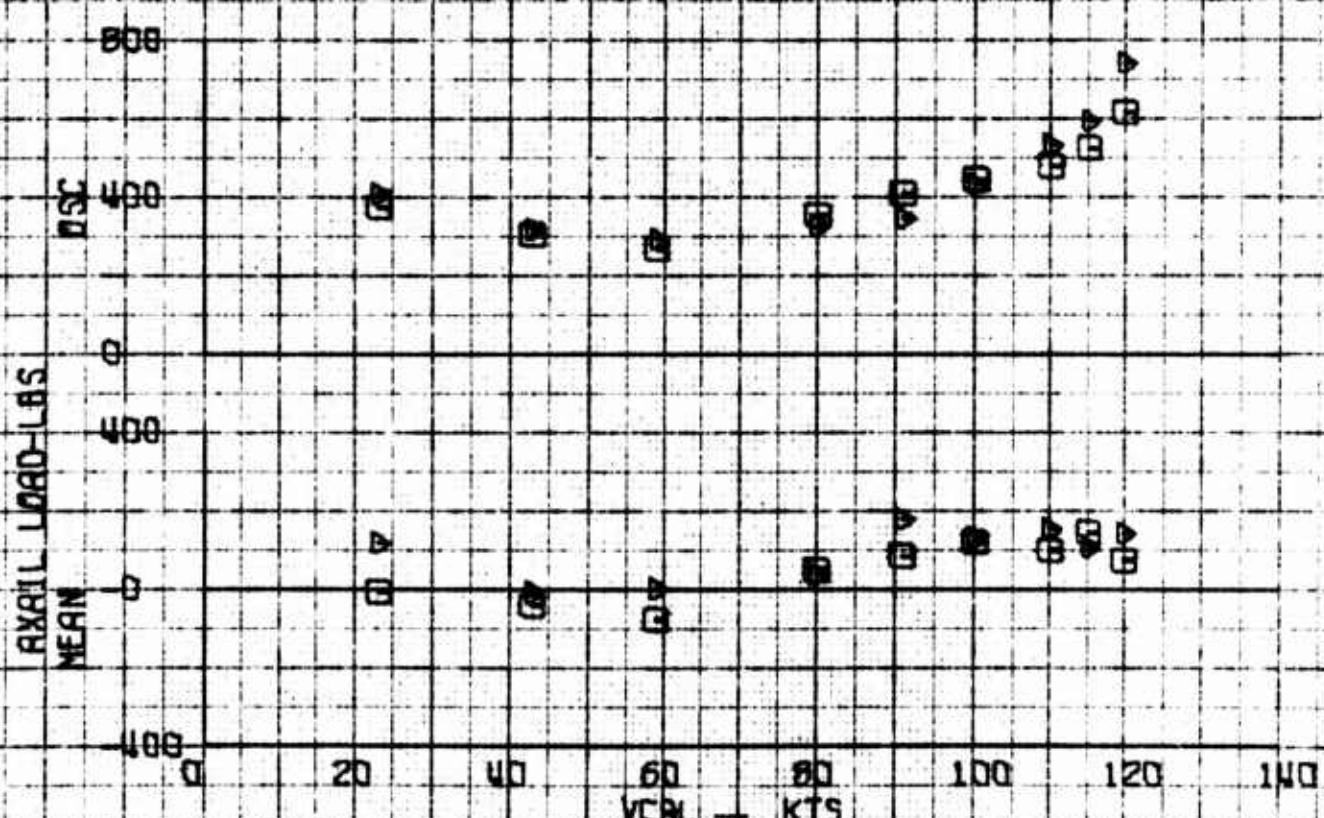
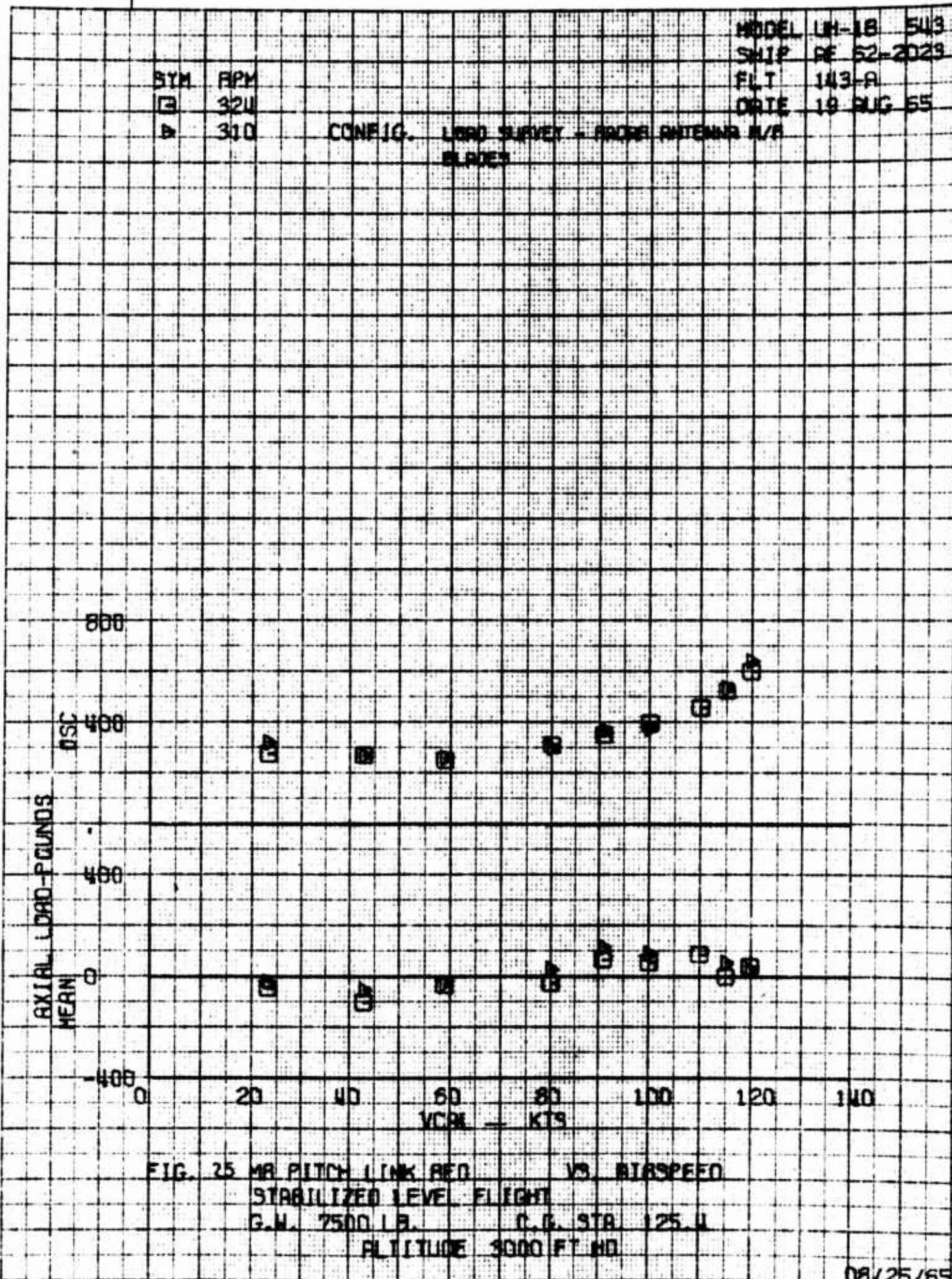


FIG. 14 MR PITCH LINK RED VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.4
ALTITUDE 5000 FT MD

07/17/65



3VM RPM
□ 324
△ 309

CONFIG. BASELINE STD BLADES

MODEL 144-15 543
SAIR 4E62-12023
FAT 135A
DATE 9 JULY 65

Axial Load ~ 0.5 ($\times 10^{-3}$)

MEAN

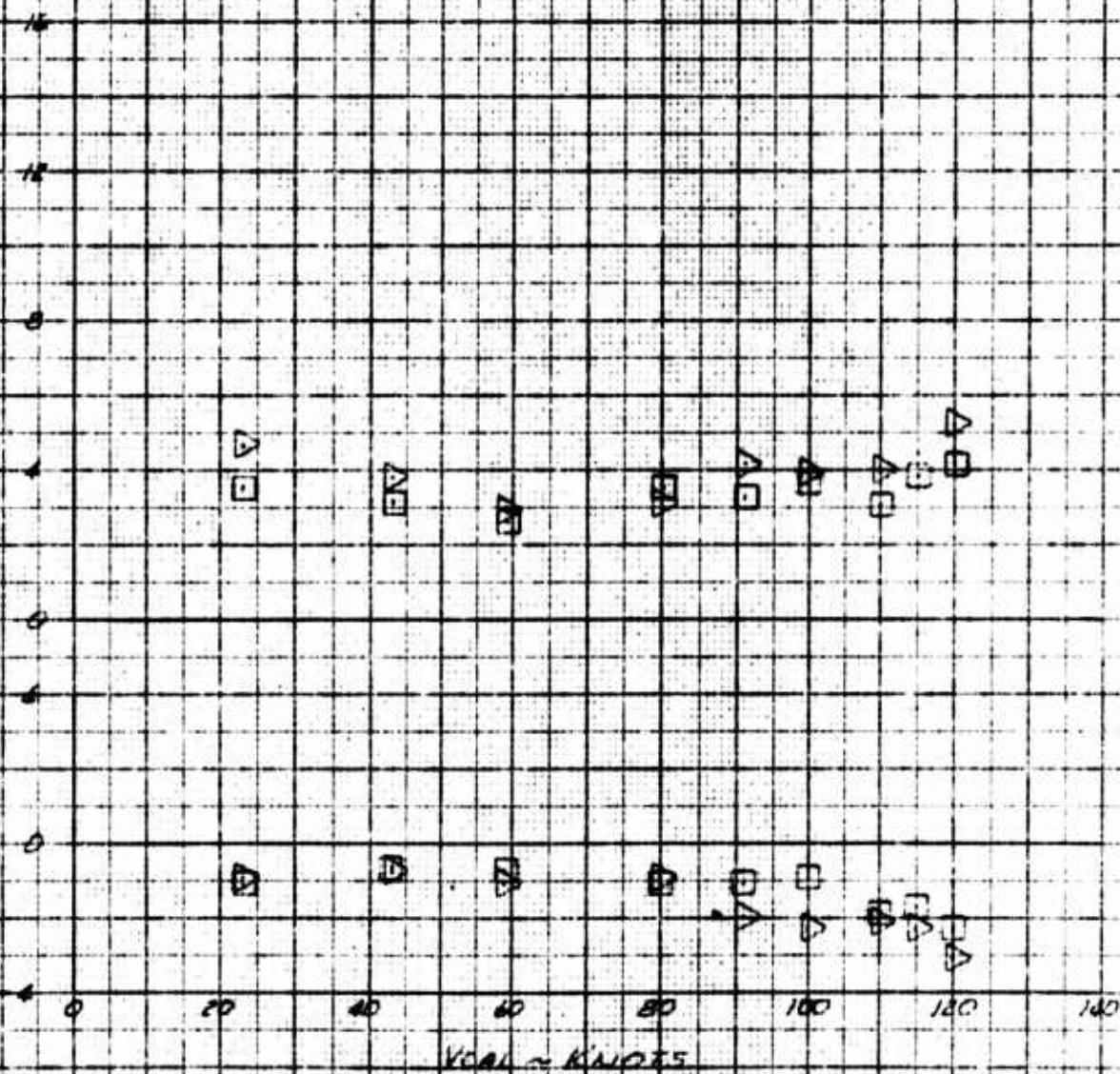


FIG. 26 MIR Drag Brace VS AIRSPEED DURING
STABILIZED LEVEL FLIGHT
GW 7500 LBS CG STA 125.4 IN.
ALTITUDE 3000 FT HG

MODEL UH-1B 543
SHIP PG 52-2029
ELT 113-A
DATE 19 AUG 65

STM RPM
█ 320
► 310

CONFIG. LBD SURVEY - PROBE PNTING W/A
BLADES

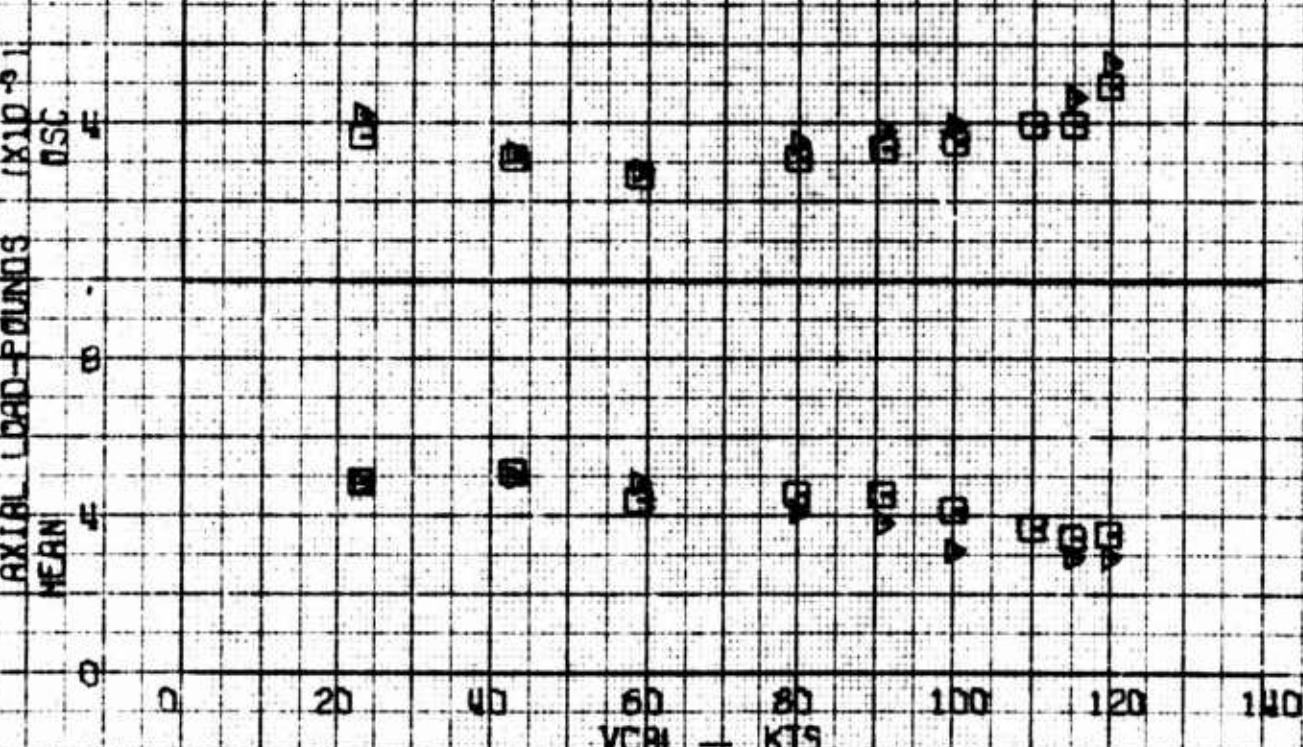


FIG. 21 MB DRAG BRACE VS AIRSPEED
STABILIZED FIVE FLIGHT
G.W. 7500 LB. O.G. STR 25.4
ALTITUDE 3000 FT. HD

08/25/65

MODEL UH-1B 543
SHIP AF62-2023
FLT 135R
DATE 9 JULY 65

STM RPM
G 520
D 505

CONFIG. BASELINE STD BLADES

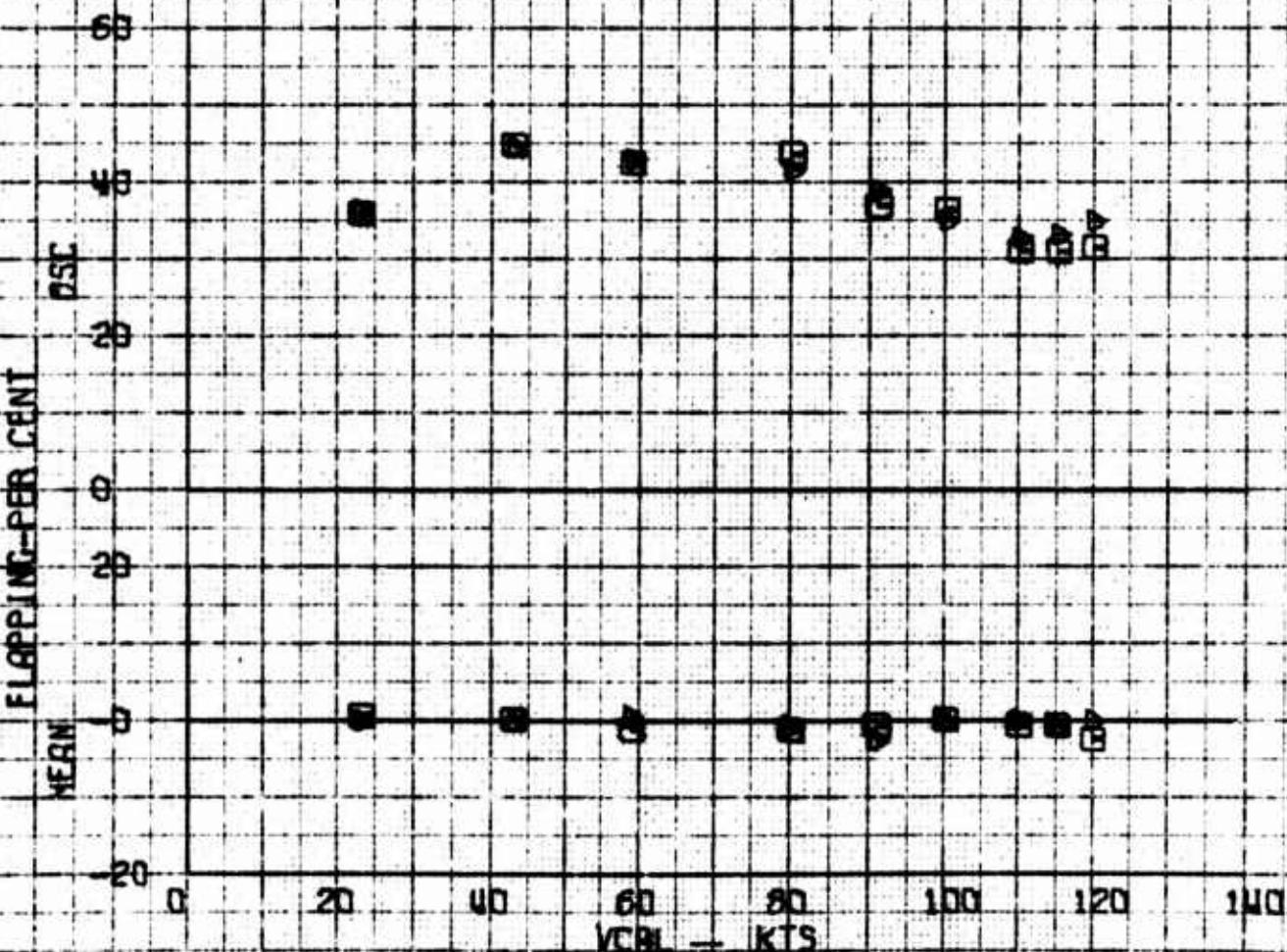
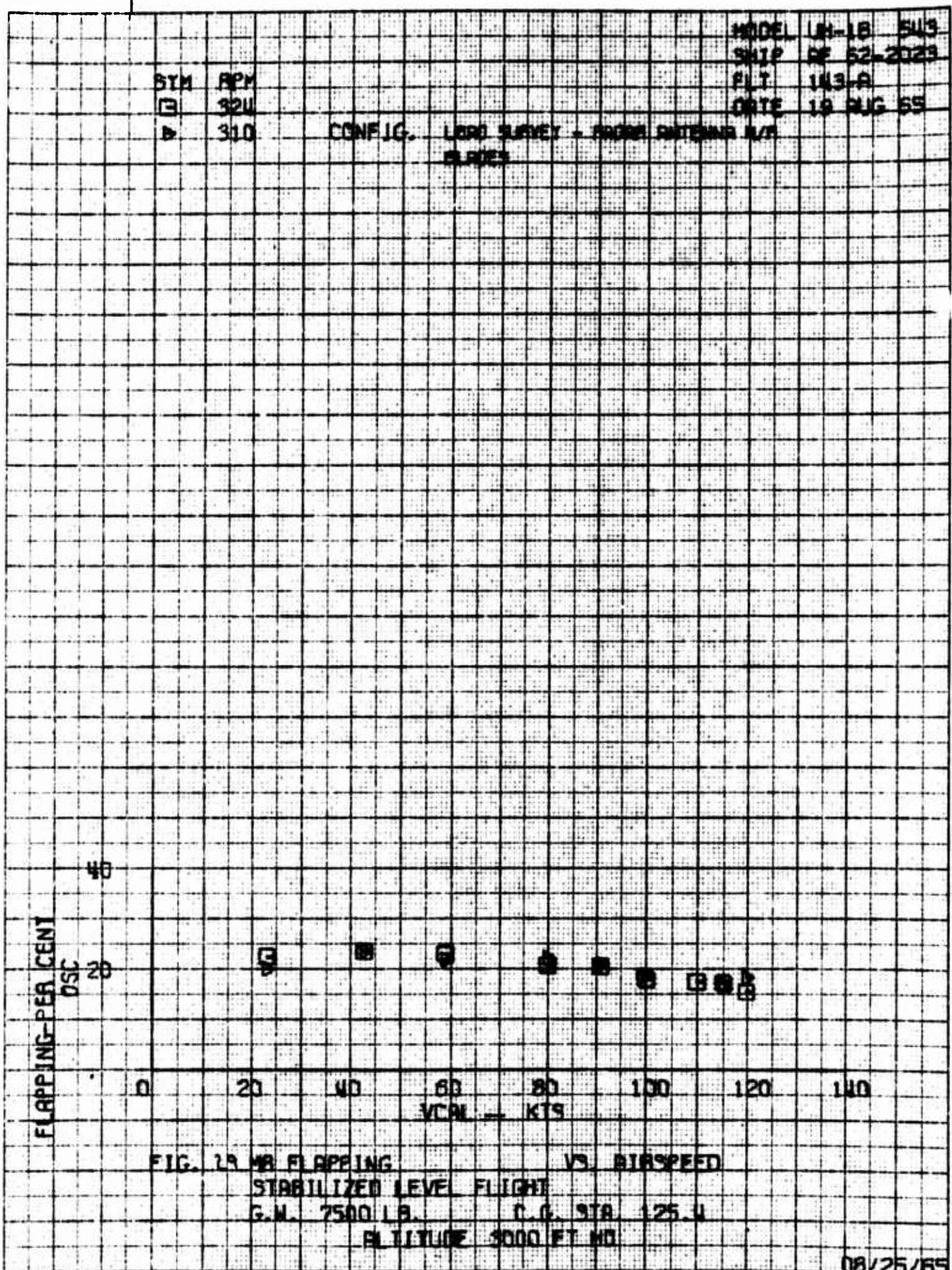


FIG. 2B MR FLAPPING VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.4
ALTITUDE 5000 FT MD

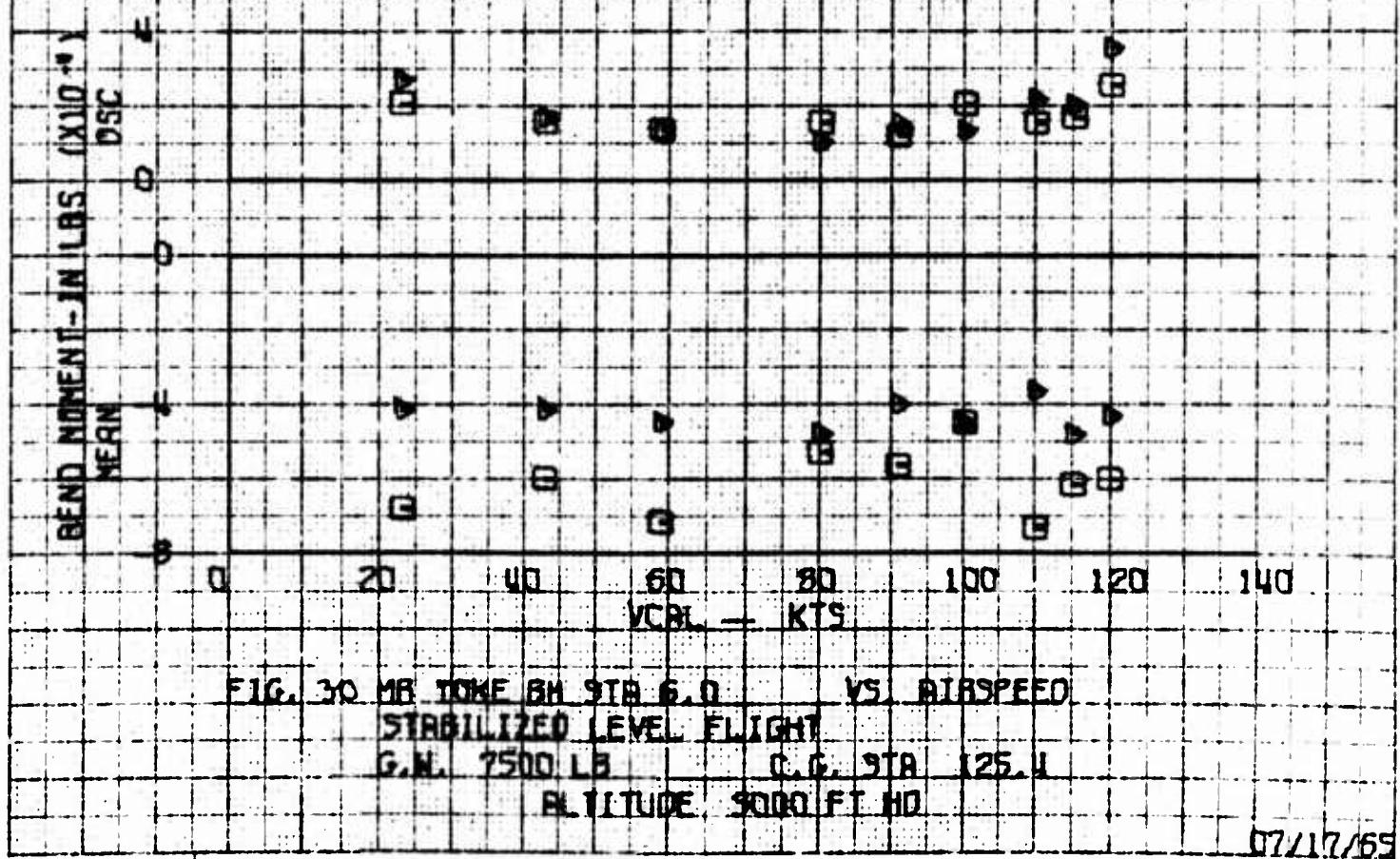
7/17/65



PTM PTM
G 324

CONFIG. SCHEDULED DTD PAGED

MODEL UH-1B 543
SHIP BE62-2023
FLT 135A
DATE 9 JULY 65



SIM RPM
G 320
D 310

MODEL UH-1B SUB
SHIP OE 52-2023
FLT 1N3-F-A
DATE 19 AUG 65
ELIMINATED

CONE 1G. LADY SURVEY MODE PATTERN M/B

BEND MOMENT - IN LB (X10^-4)
HEM

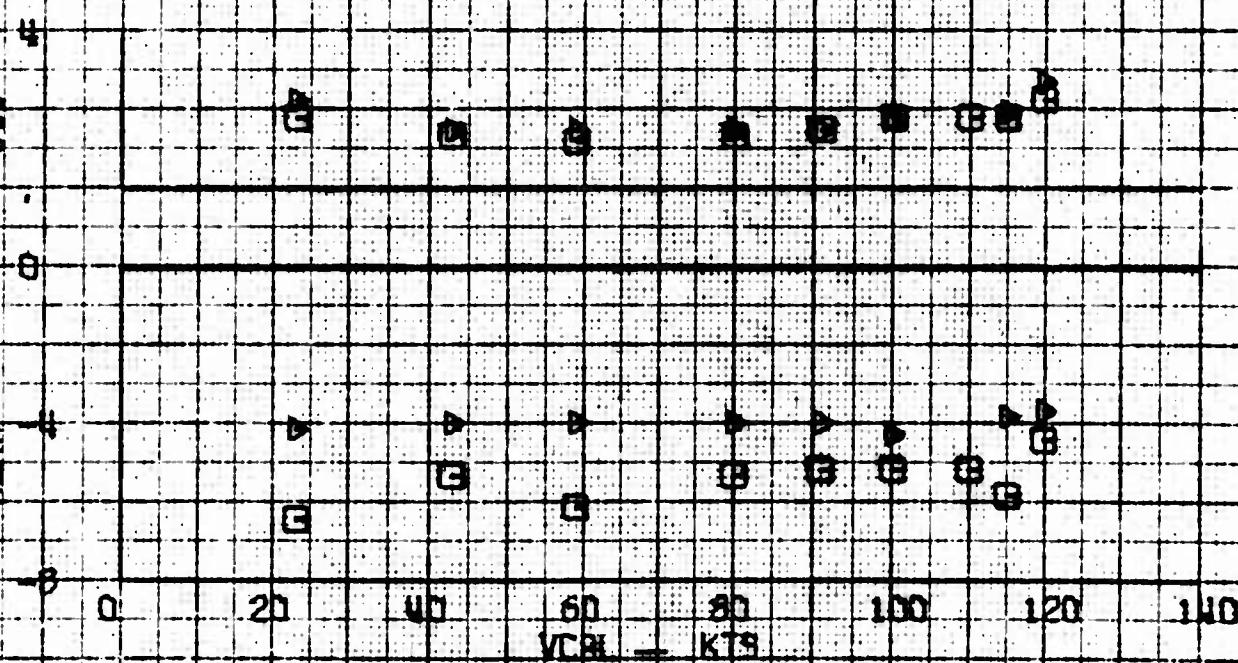


FIG. 31 MR TIME BREW STA 5 VS AIRSPEED
STABILIZED FIVE FLIGHT
G.W. 7500 LBS C.G. STA 125.4
ALTITUDE 3000 FT MD

08/25/65

MODEL UM-1B 5M3
SHIP AF62-2029
FLT 135A
DATE 9 JULY 65

STM RPM
□ 324
► 309

CONFIG. BASELINE MDL BLOCKS

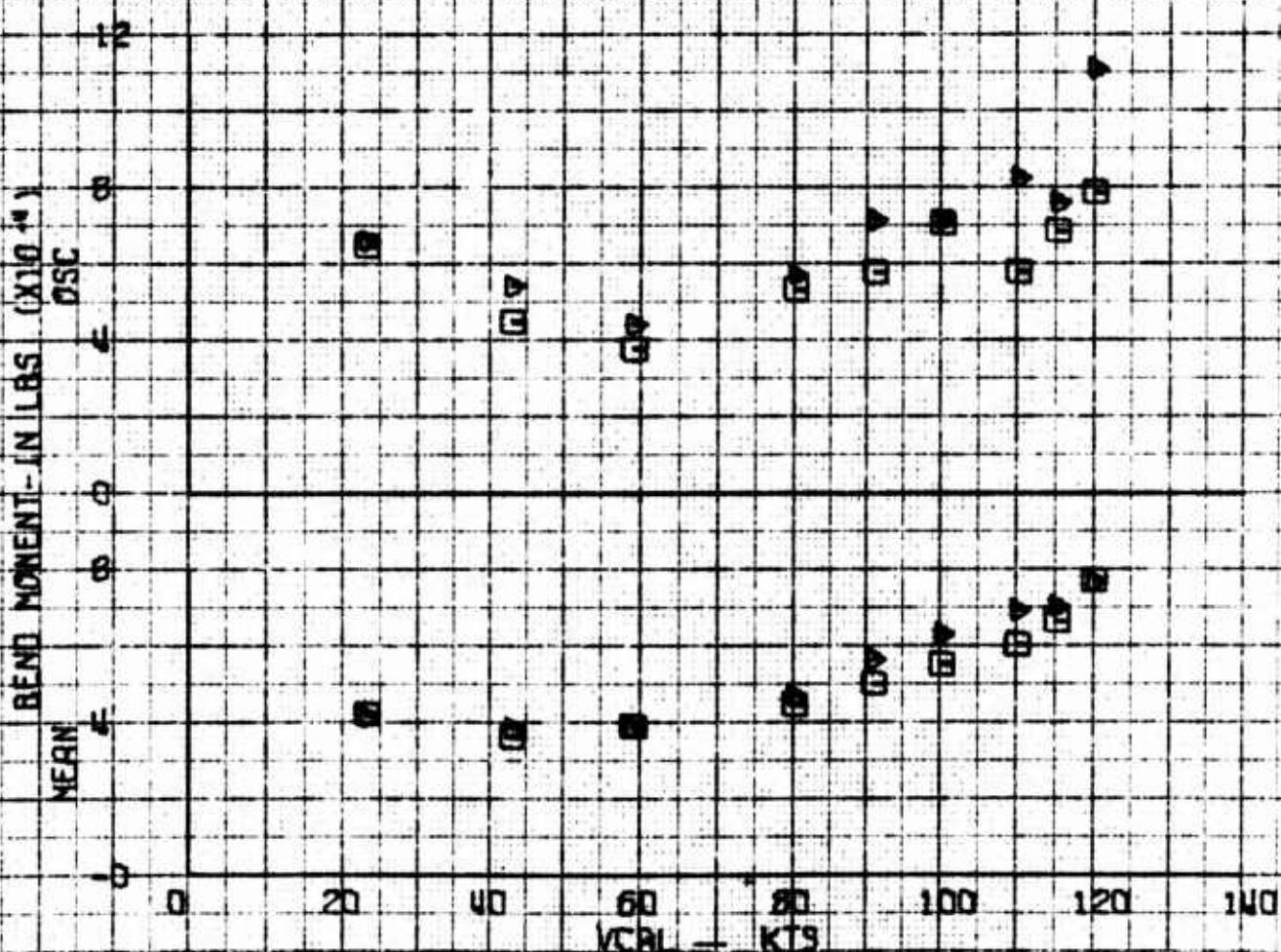
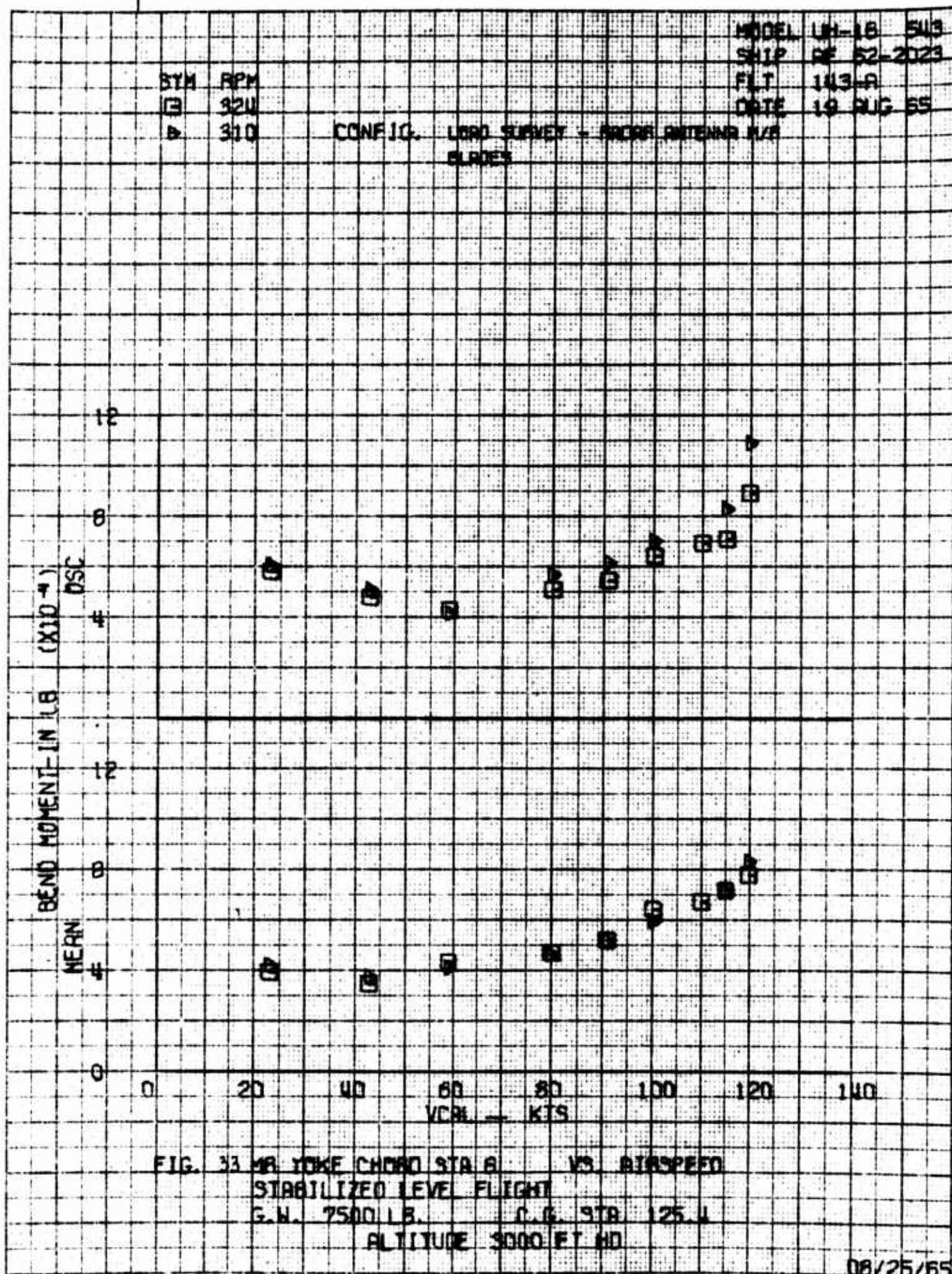


FIG. 32. MR TAKE CHO STA 6.D. VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.U
ALTITUDE 3000 FT HD

07/17/65



MODEL UH-1B 543
SHIP AF62-2023
FLT 135A
DATE 9 JULY 65

STM RPM
E 320
D 315

CONFIG. GEARLINE DTD PLACED

BEND MOMENT - IN LBS X 10⁻⁴

MEAN

3

2

1

0

2

1

0

1

2

3

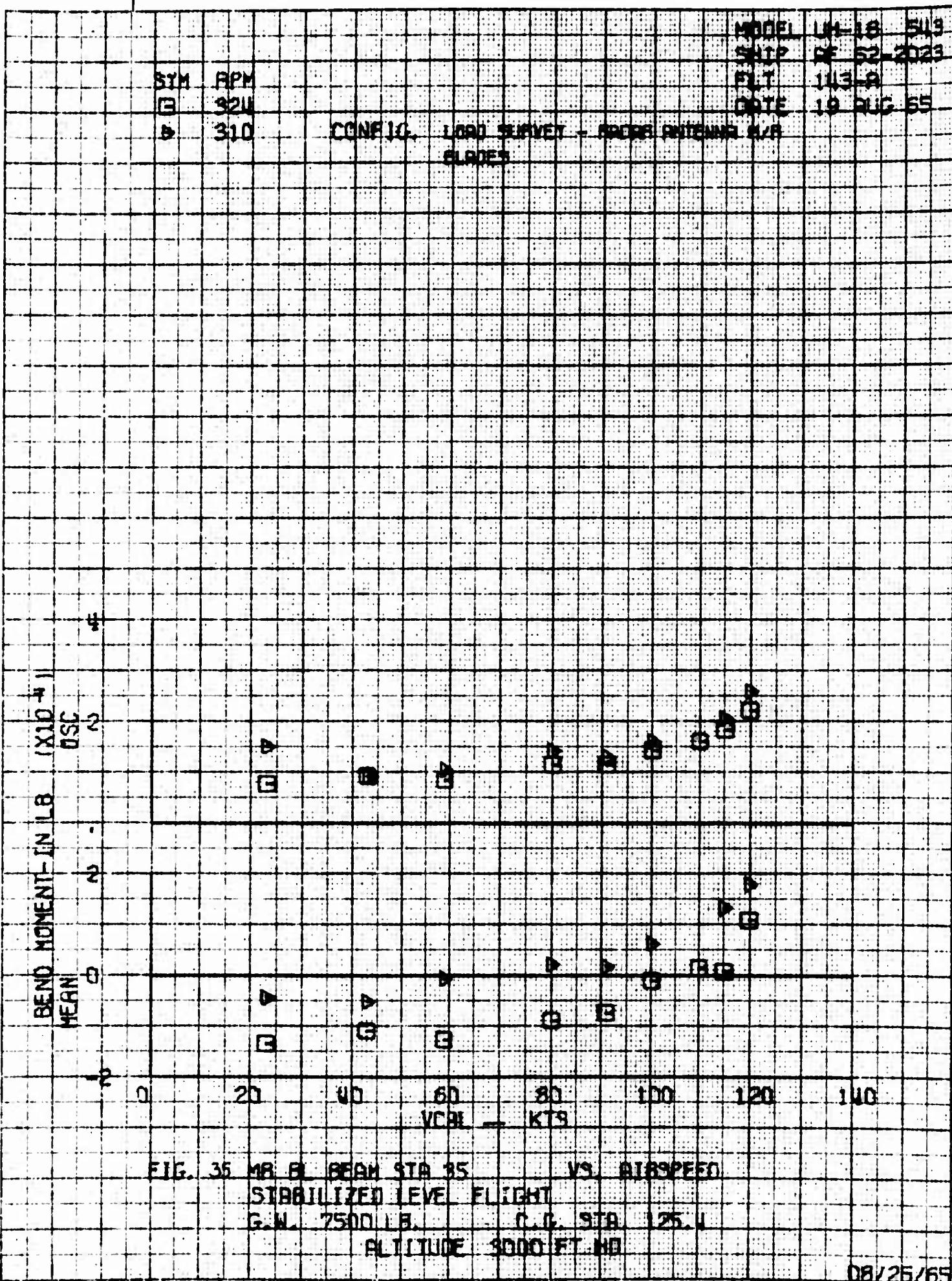
2

0 20 40 60 80 100 120 140

V_{CAL} - KTS

FIG. 34 MR FLG FM STA 35
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.1
ALTITUDE 3000 FT HD

07/17/65



08/25/65

STM RPM
G 324
D 309

CONFIG. BASELINE 370 BLADES

MODEL UH-1B 543
SHIP BF62-2023
FLT 135A
DATE 9 JULY 65

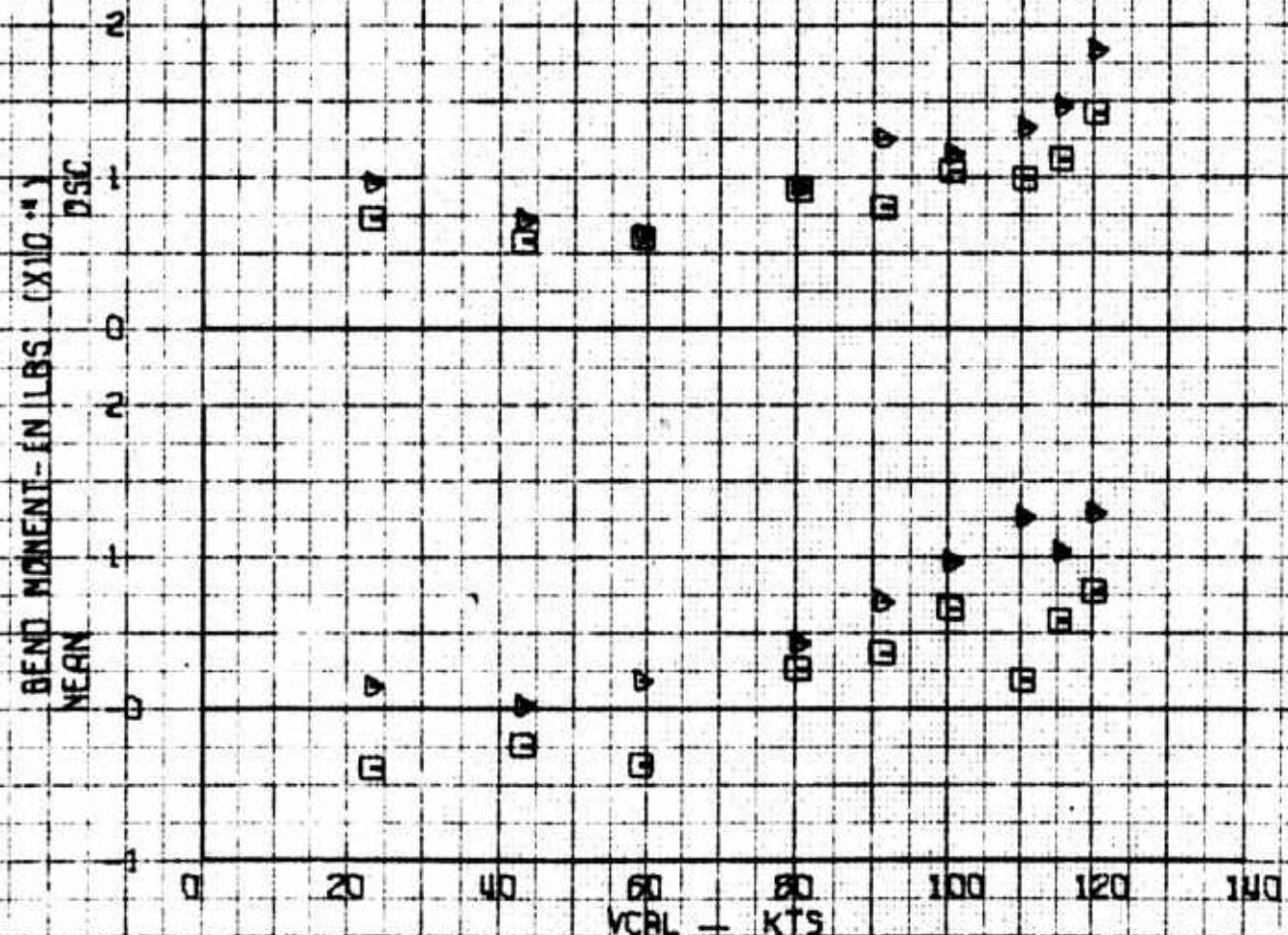
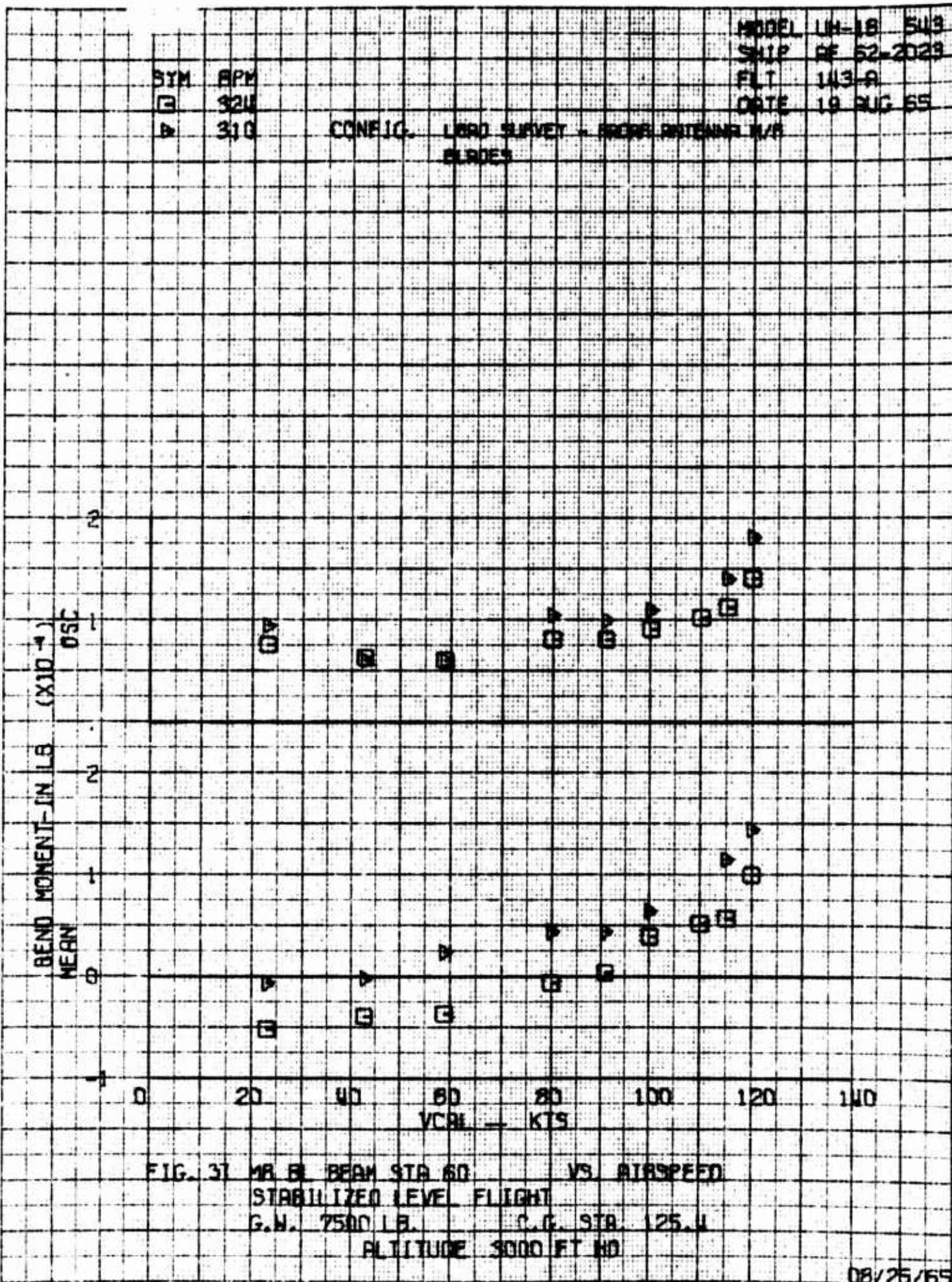
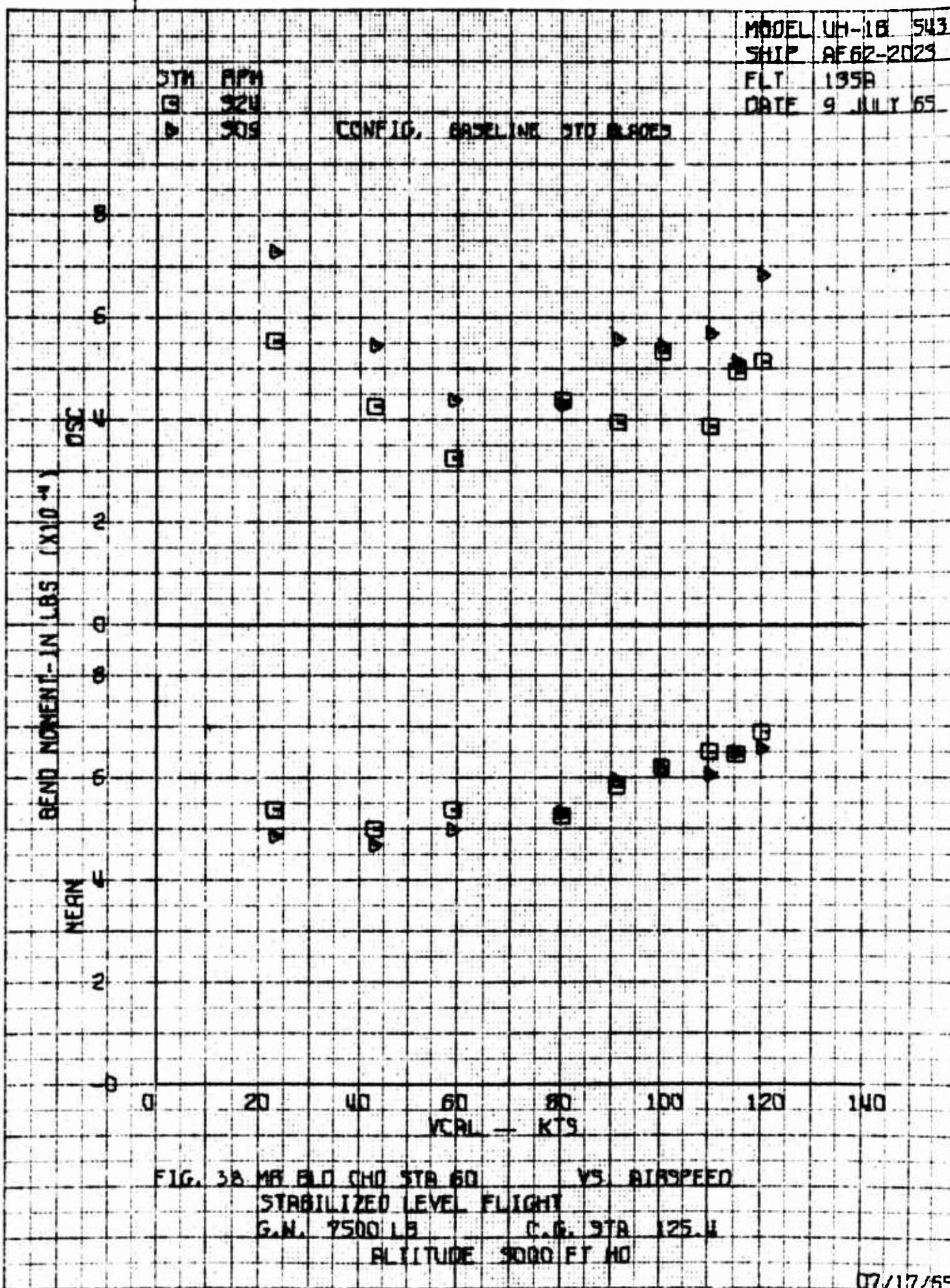


FIG. 3. MR BLD BM STA 60 VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 125.4
ALITUDE 3000 FT HD

07/17/65





STM RPM
□ 320
△ 300

CONFIG. LOAD SUGGEST - PREDOM. PANTENAR 1/5

MODEL LH-1B 503
SHIP OF 52 2023
FLT 143-A
DATE 19 AUG 65

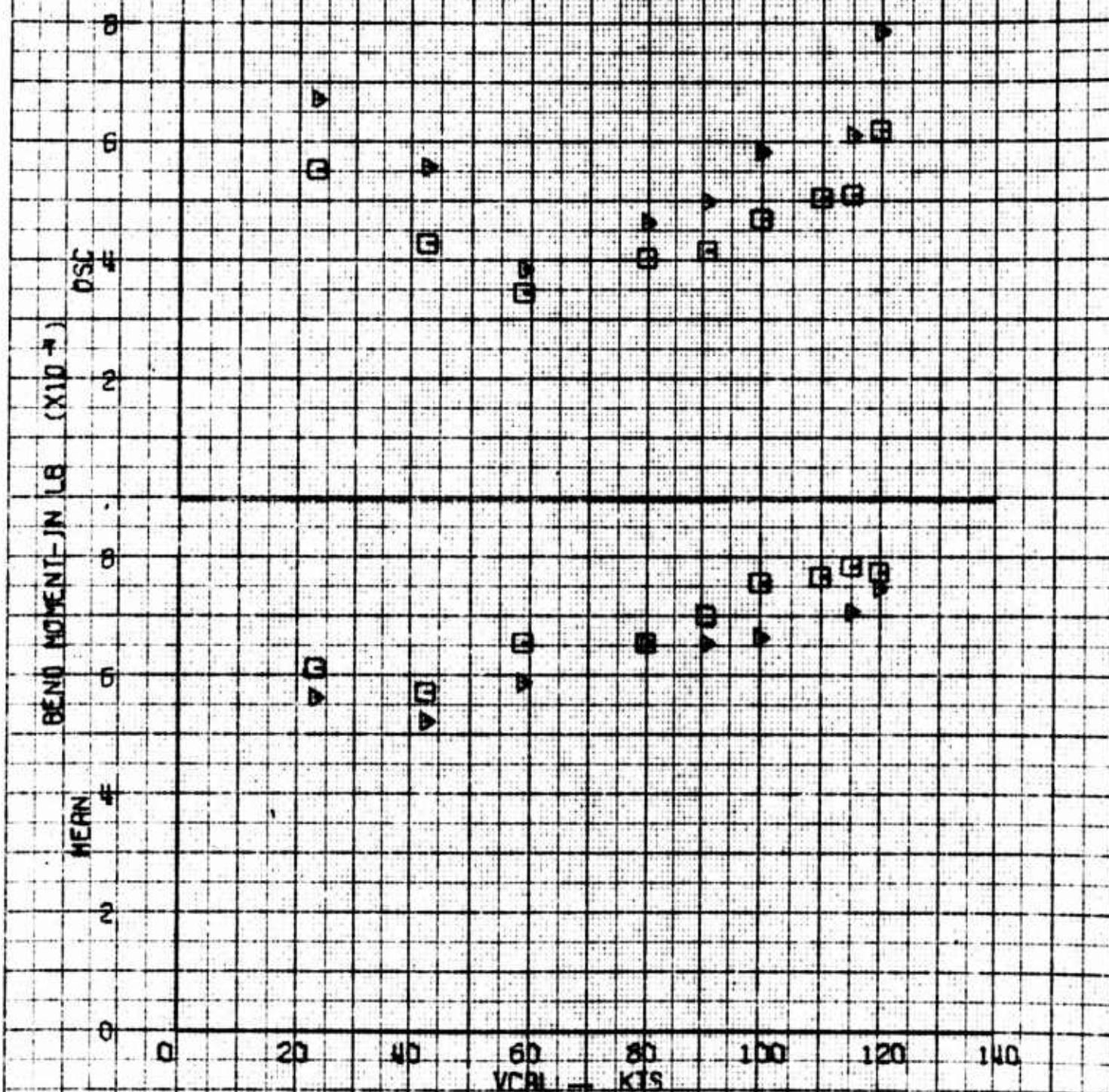
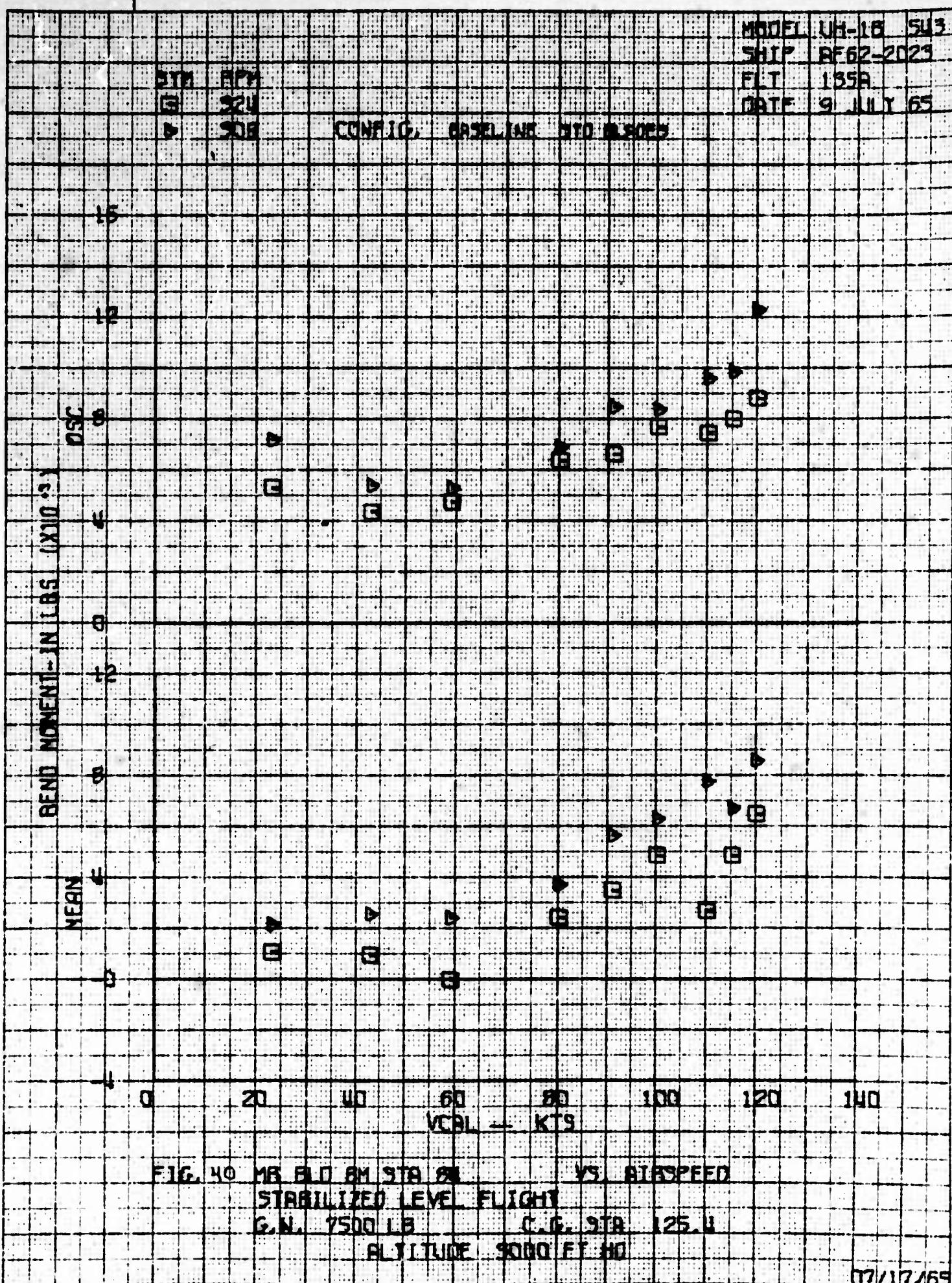


FIG. 38 MR. B. CHORD STA 60 VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LBS. C.G. STA 25.4
ALTITUDE 3000 FT ND

08/25/65

PAGE 54
REPORT 204-100-113



07/17/65

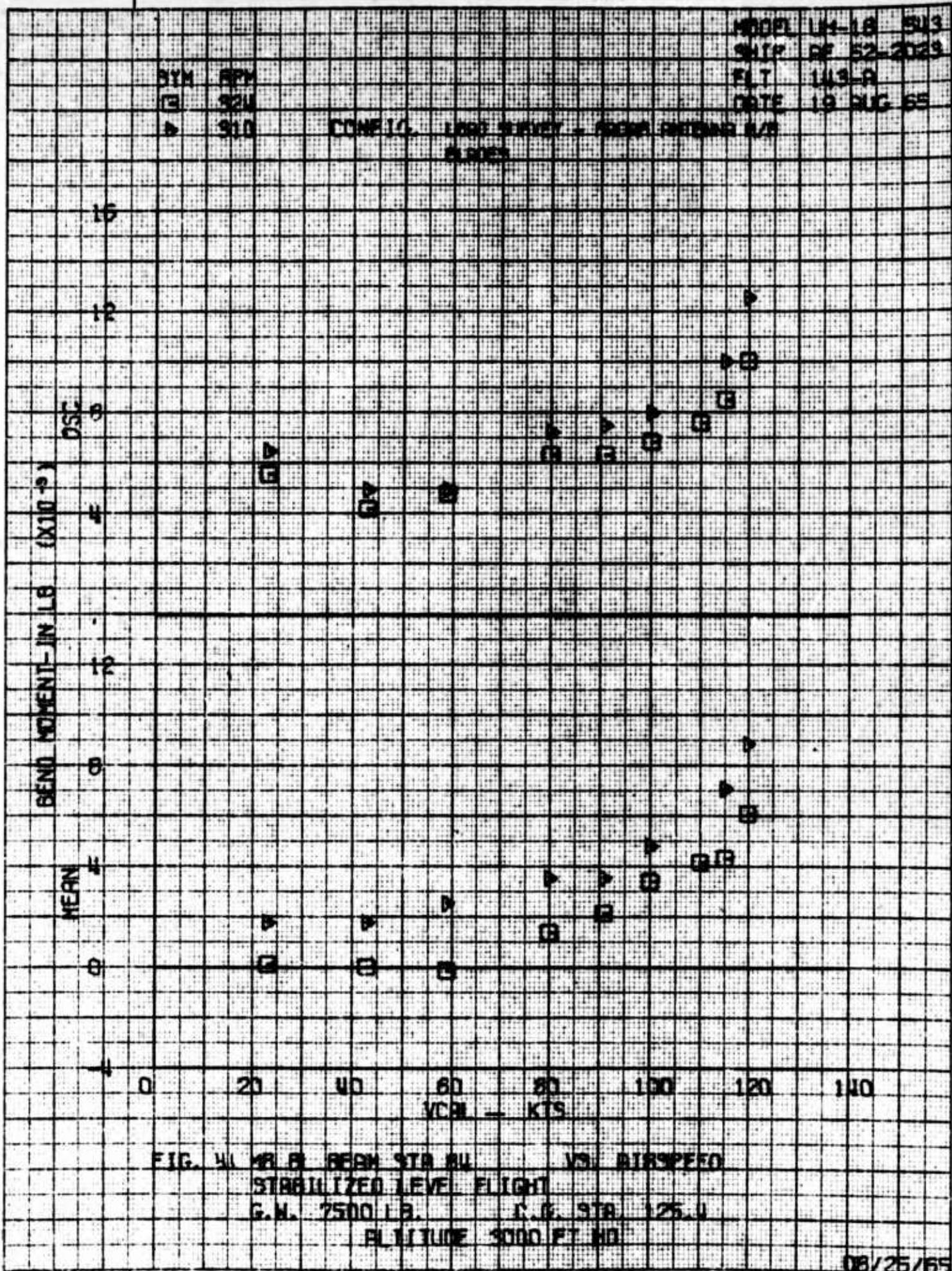
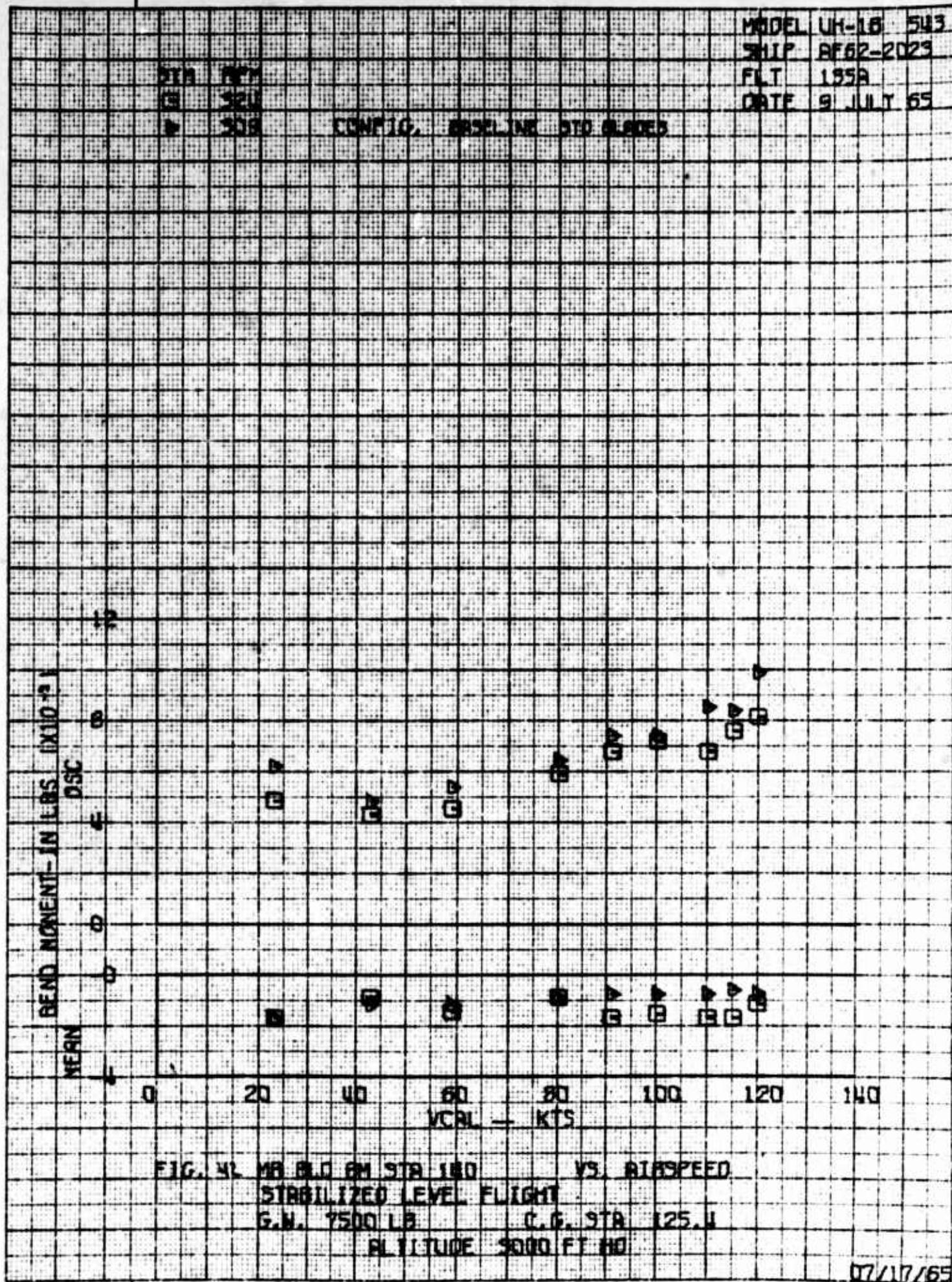
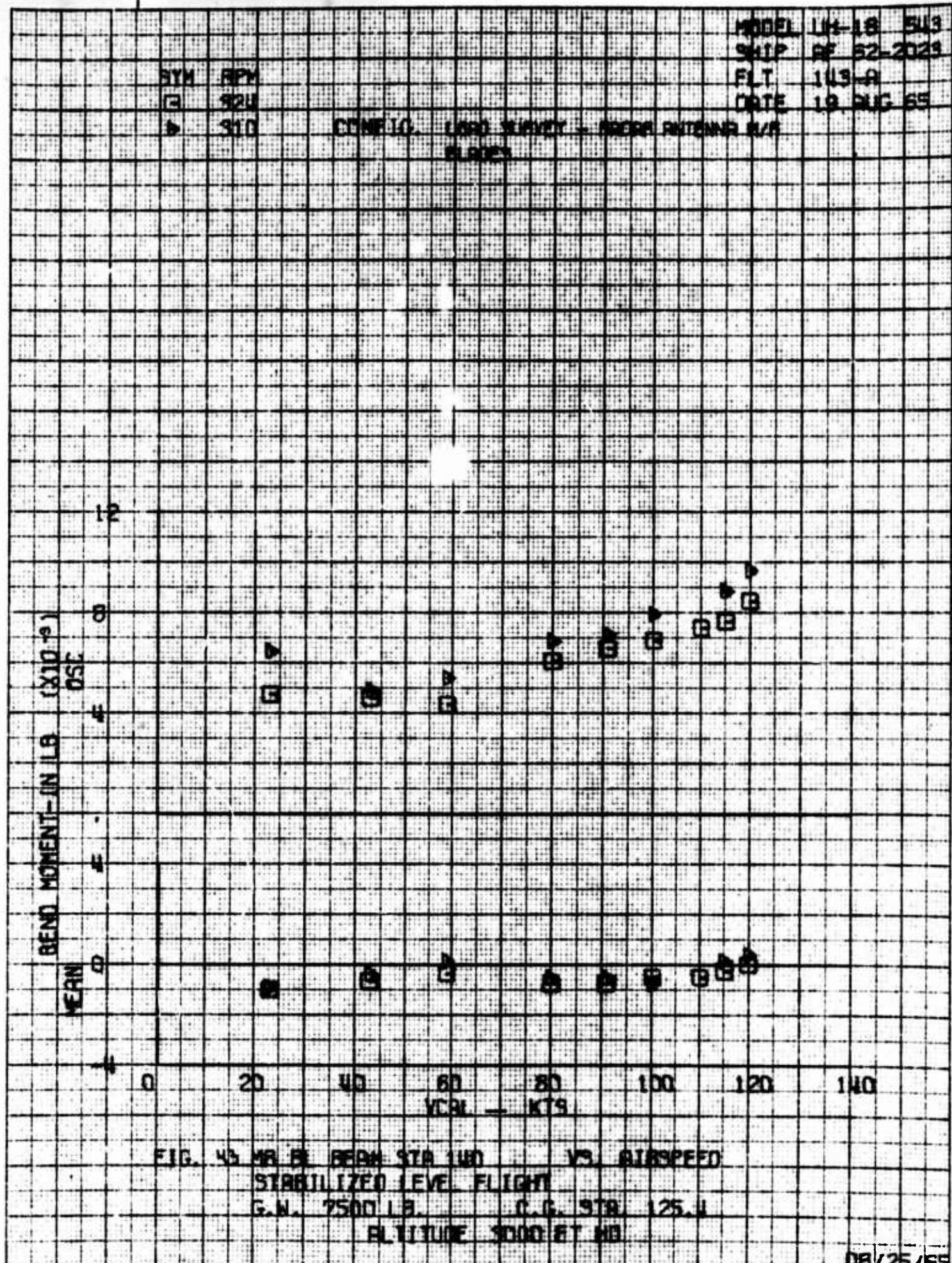


FIG. 41 MR B BEAM STD MU VS B133P250
STABILIZED FVF FLIGHT
G.W. 7500 LB. MAX SPO 125.0
PLANE 300 ft

08/25/65





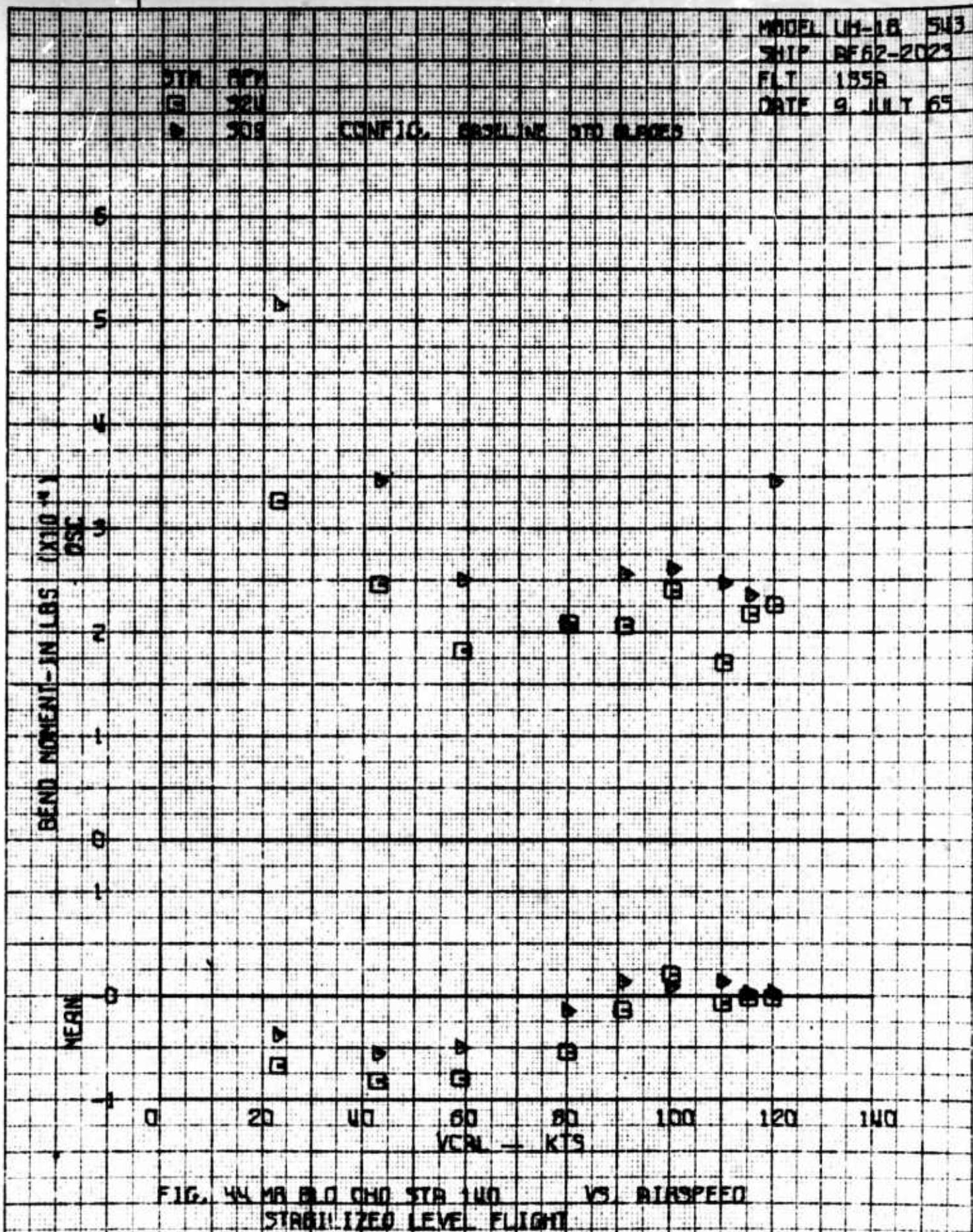


FIG. 44 MR BLO OHO STA 140 VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.M. 1500 LB P.G. STA 125.4
ELEVATION 3000 FT ND

7/17/65

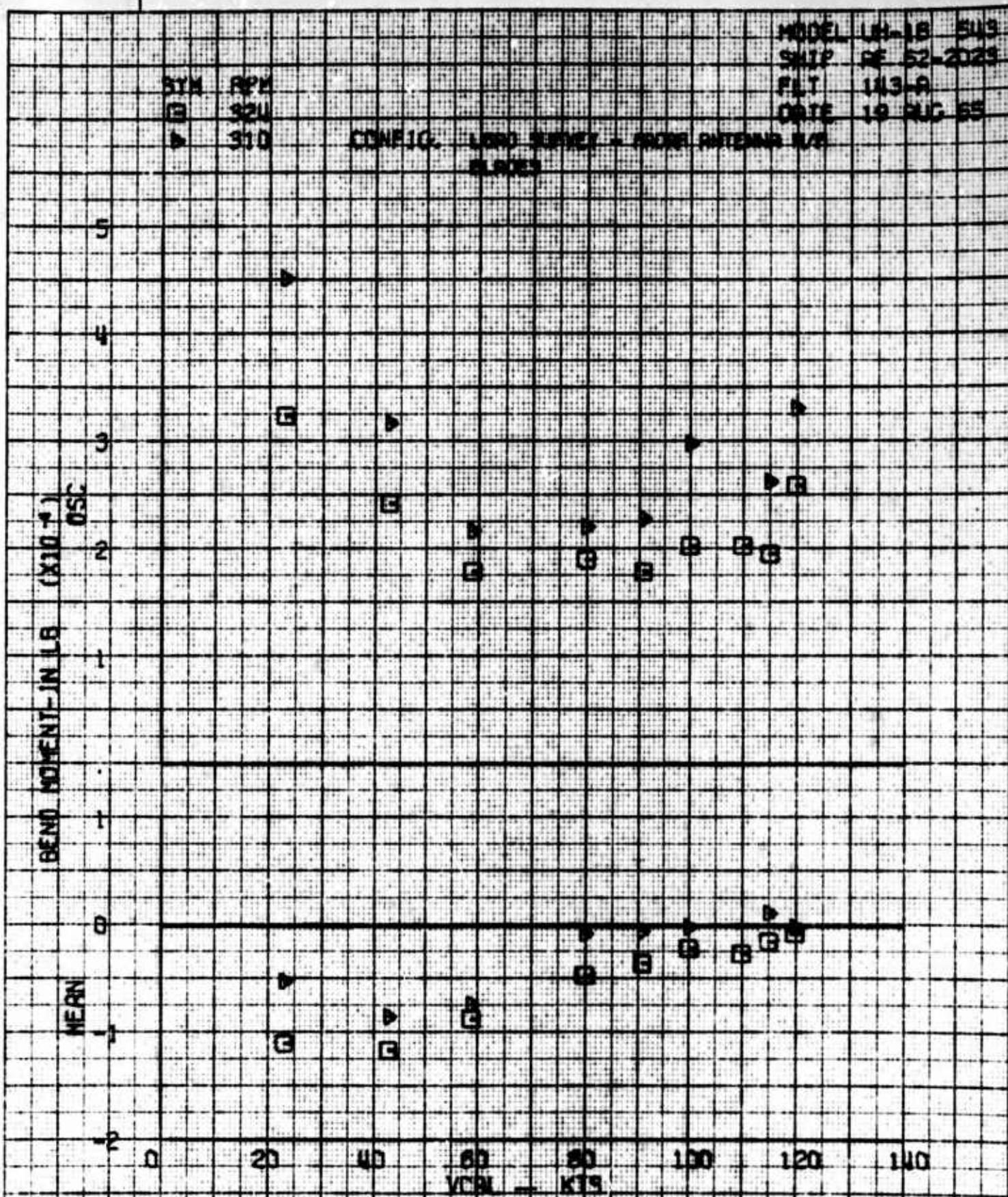


FIG. 45 MB B CHGAD STA 140 VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.M. 7500 LB. C.G. STA 125.4
ALTITUDE 3000 FT MD

08/25/65

MODEL UH-1B 543
SHIP AF62-2023
FLT 135B
DATE 9 JULY 65

STM RPM
G 324
D 309

CONFIG. BASELINE DTD BLADES

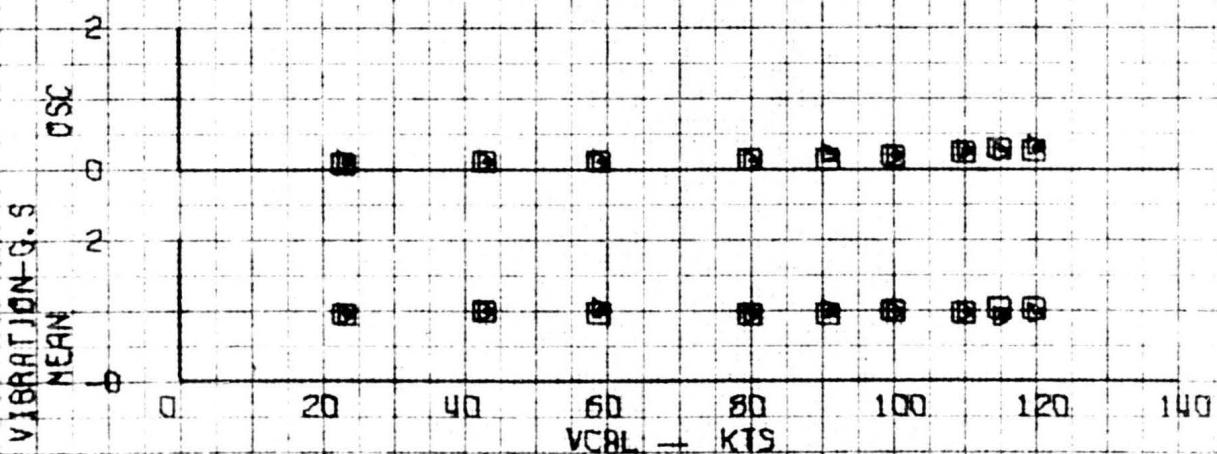
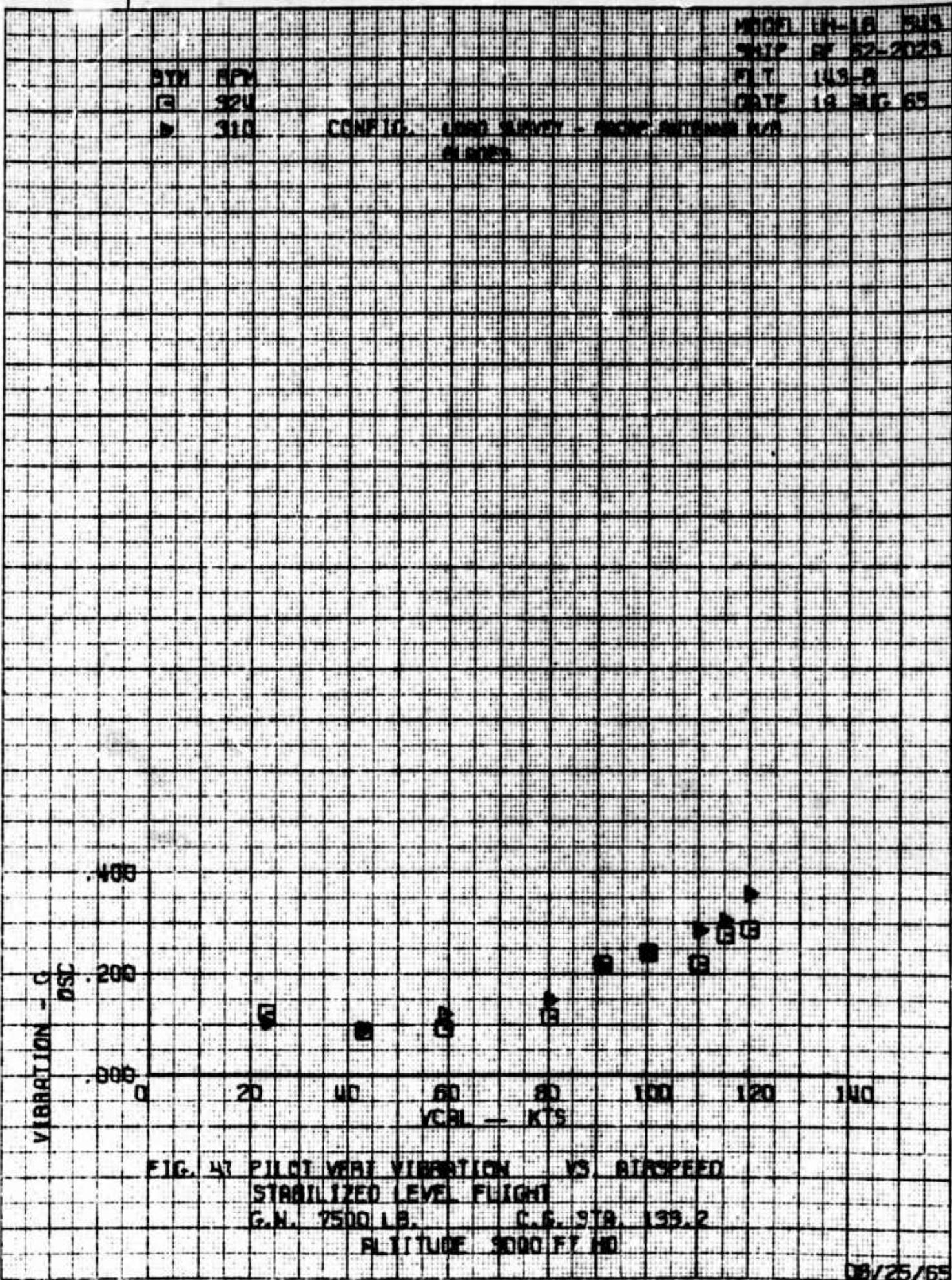
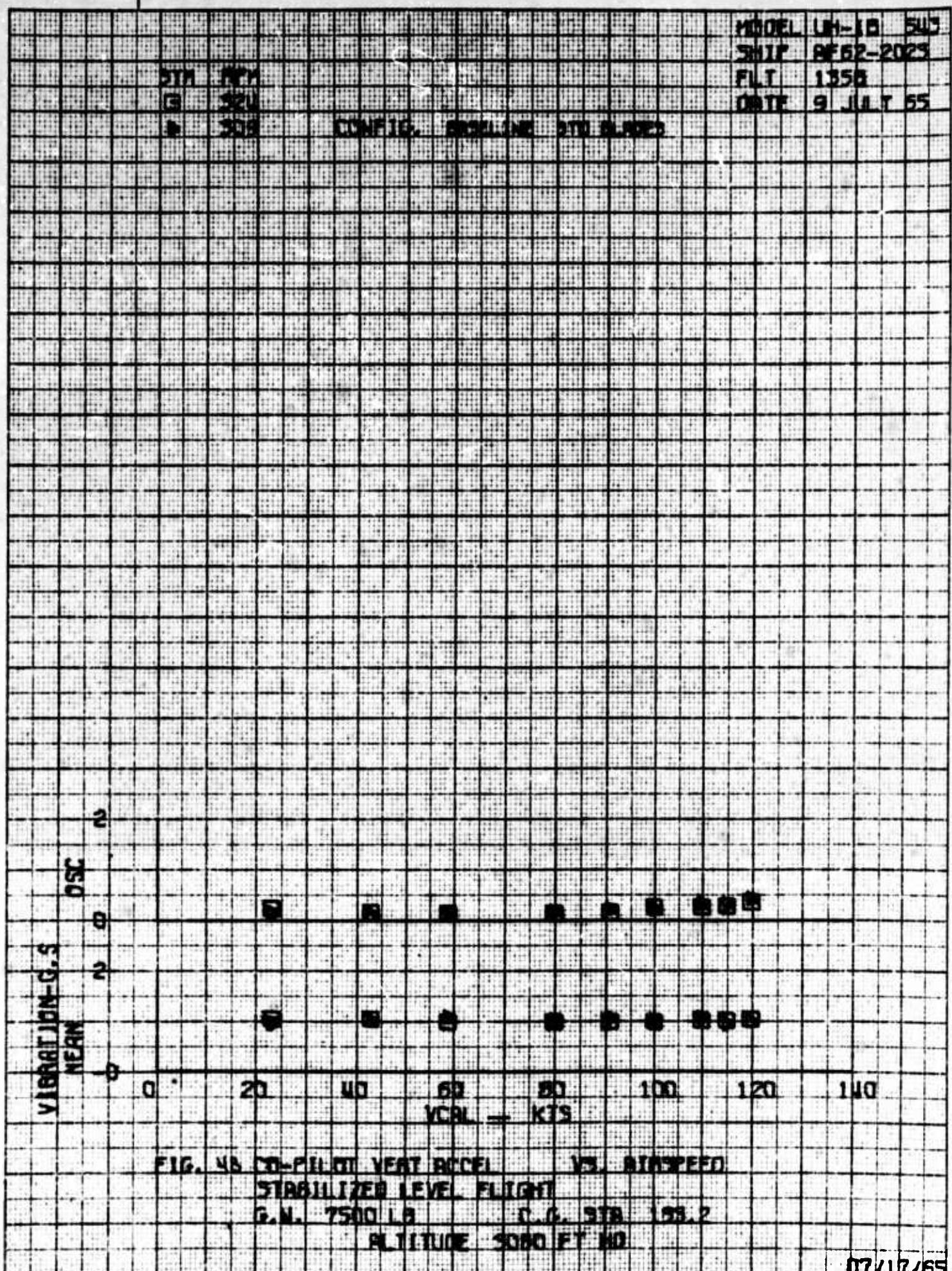


FIG. 4b PILOT VERT ACCEL VS. AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB C.G. STA 133.2
ALTITUDE 3080 FT MD

07/17/65





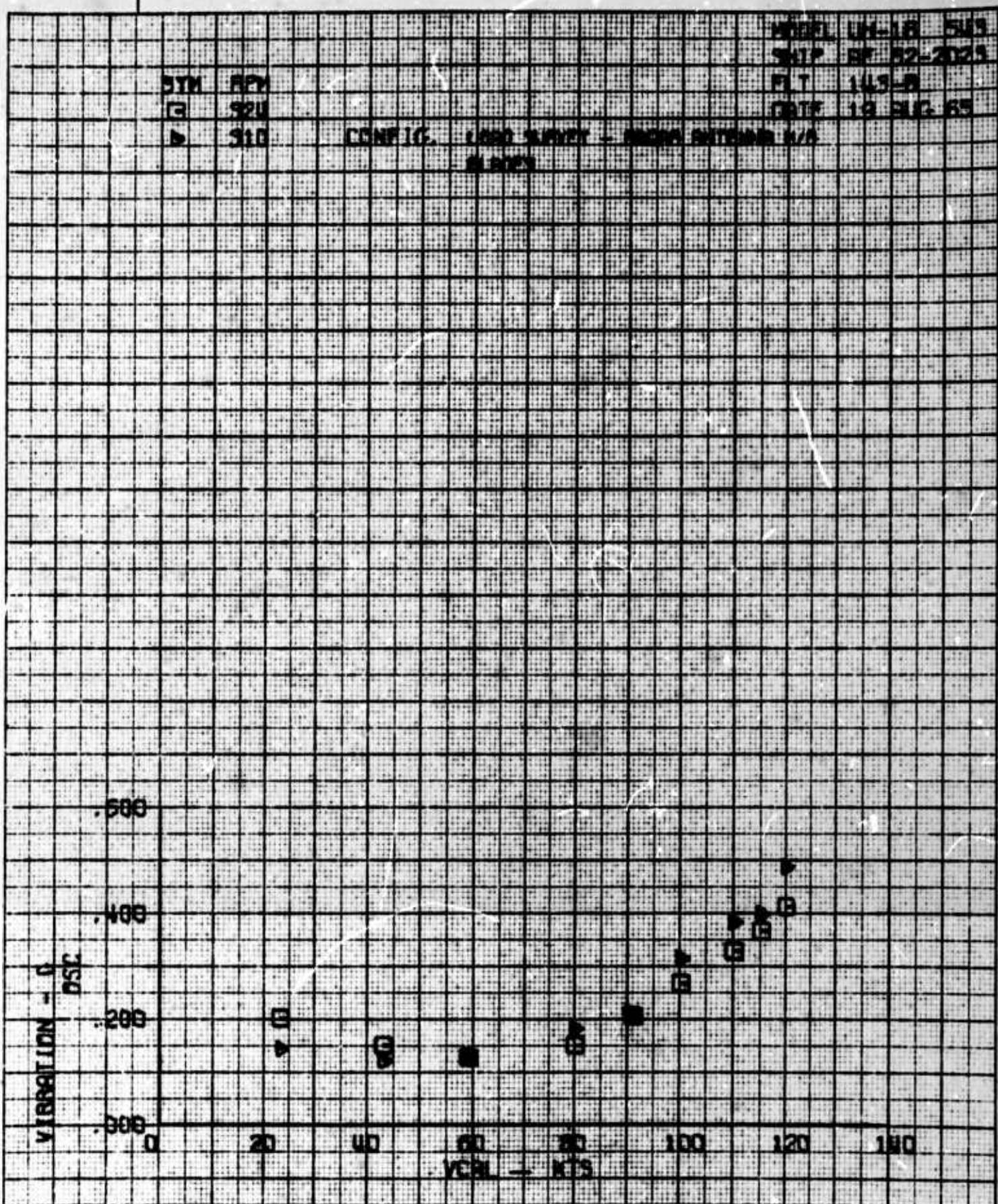


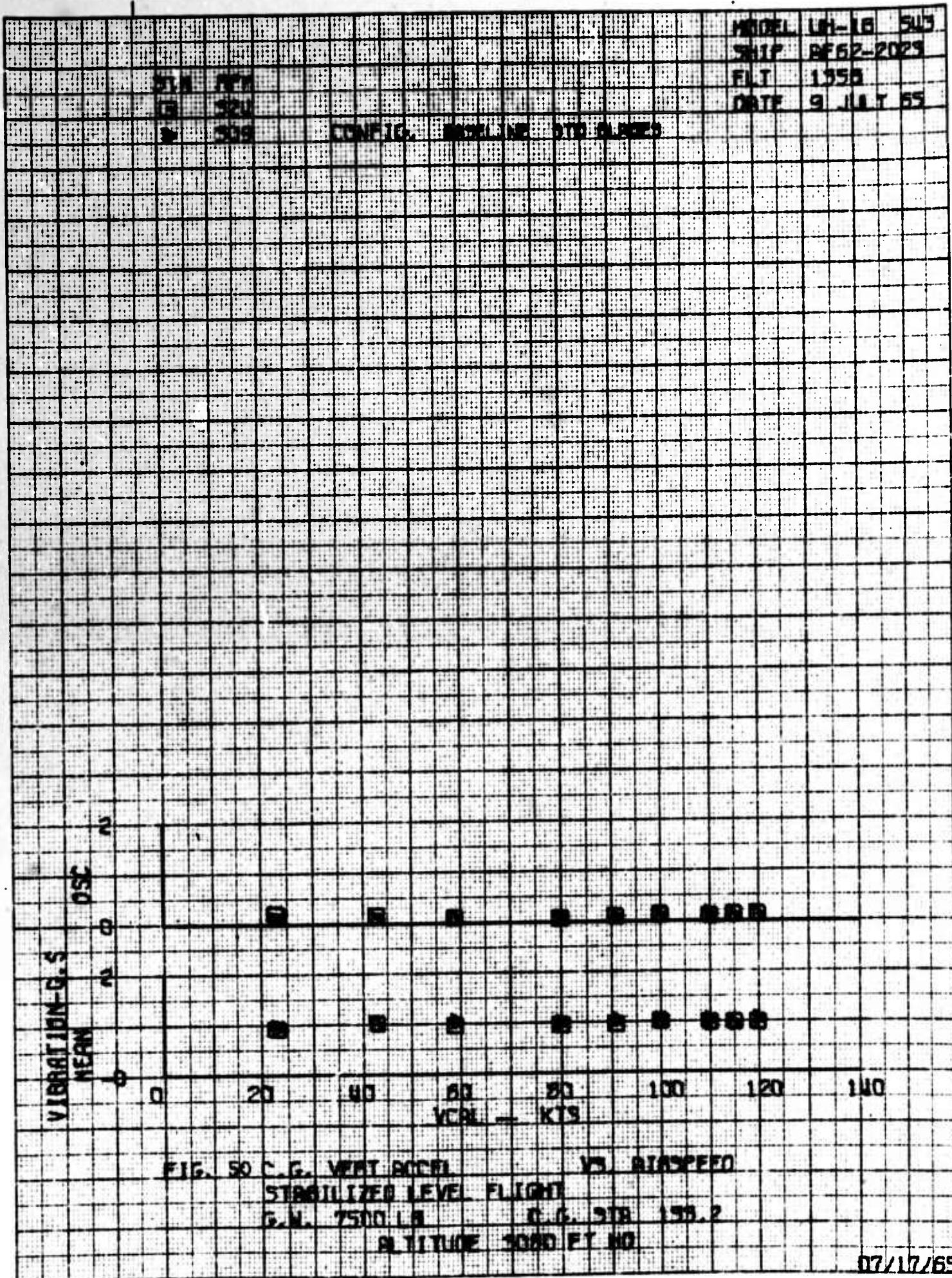
FIG. 10. STYLING OF MENTAL IMAGE IN THE WORK OF CHILDREN

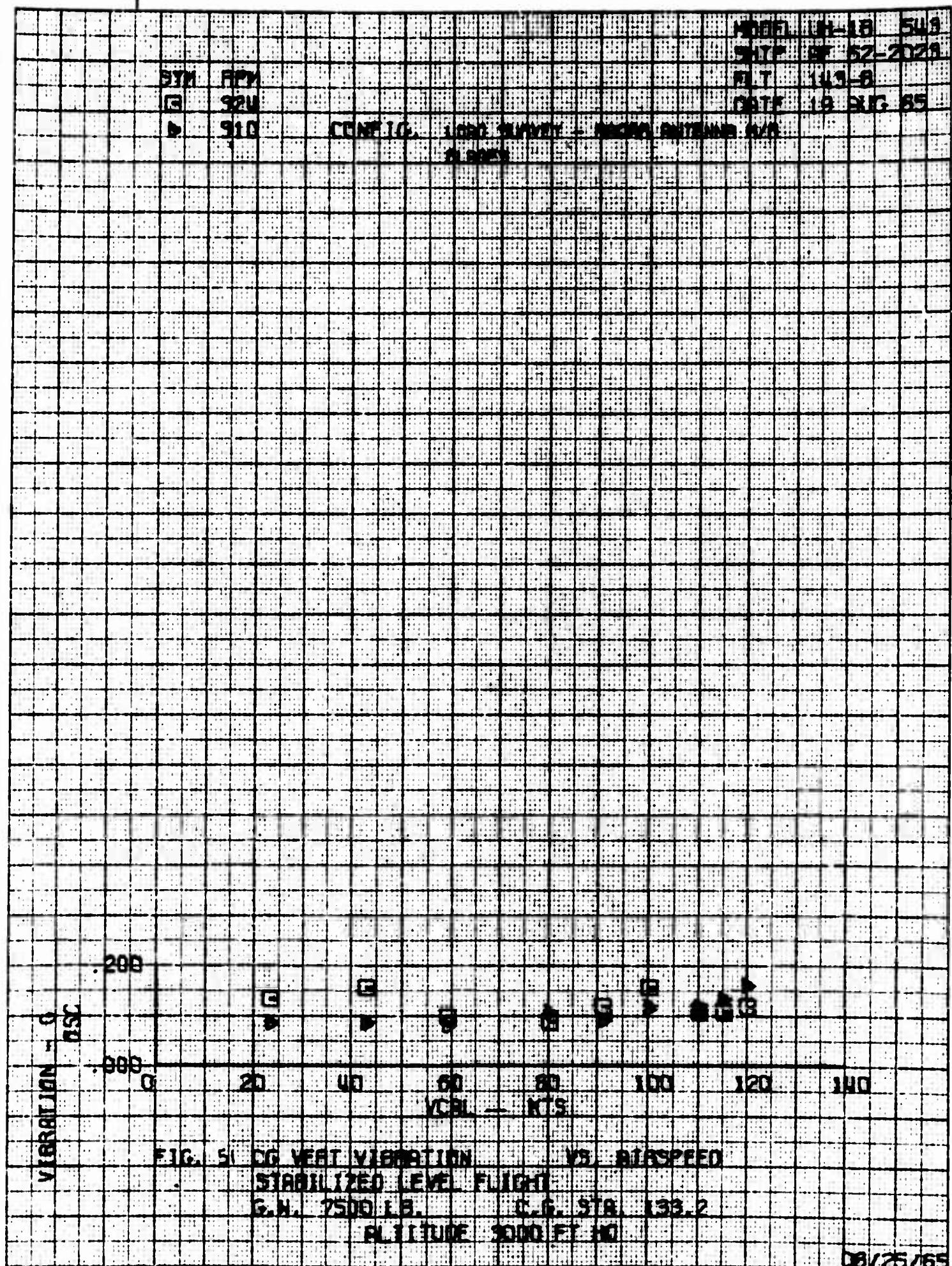
中華書局影印

6-1 2500 10 11 E 578 138 2

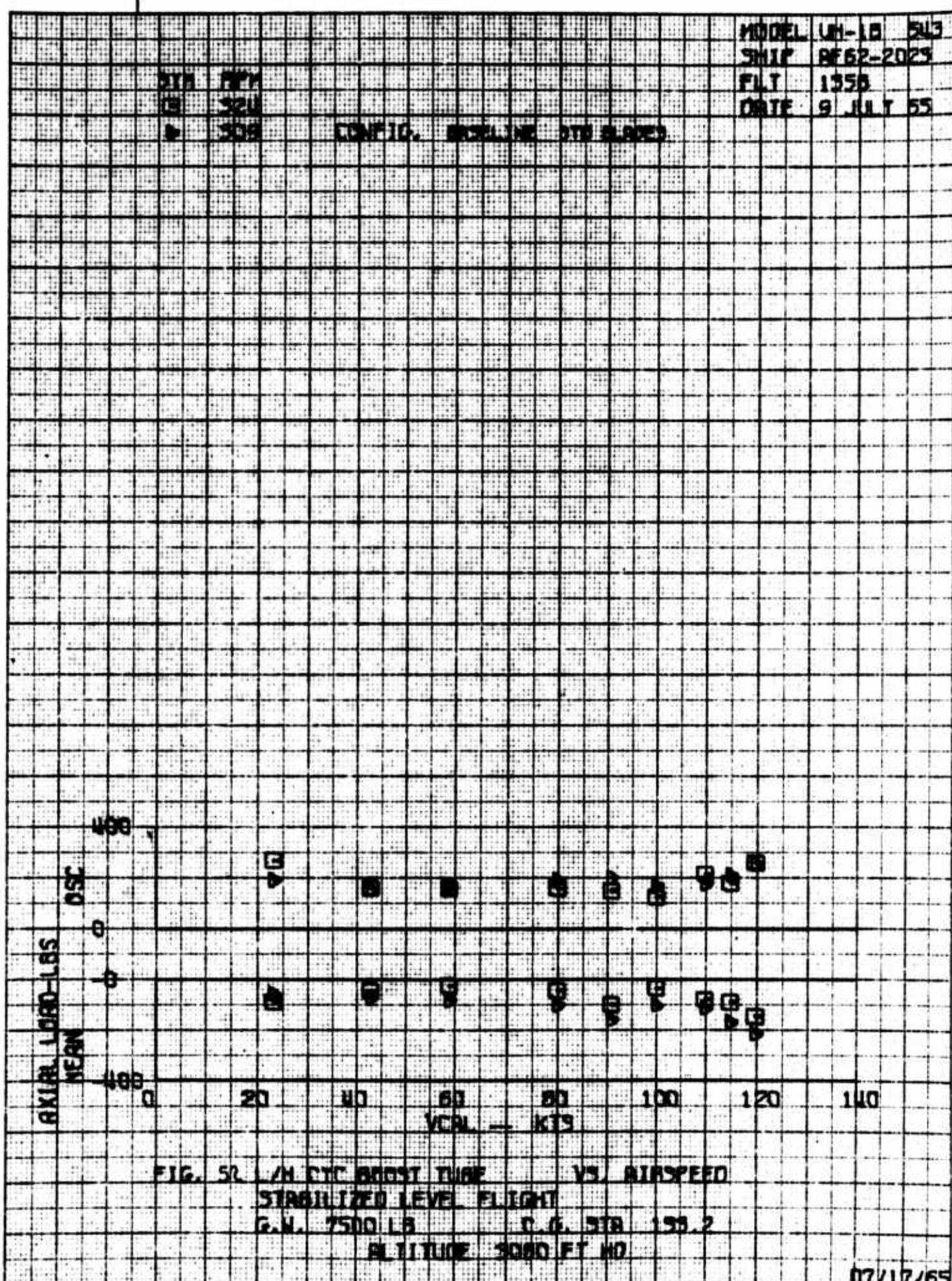
EV-12 TUBE **200** **200**

四/西/165

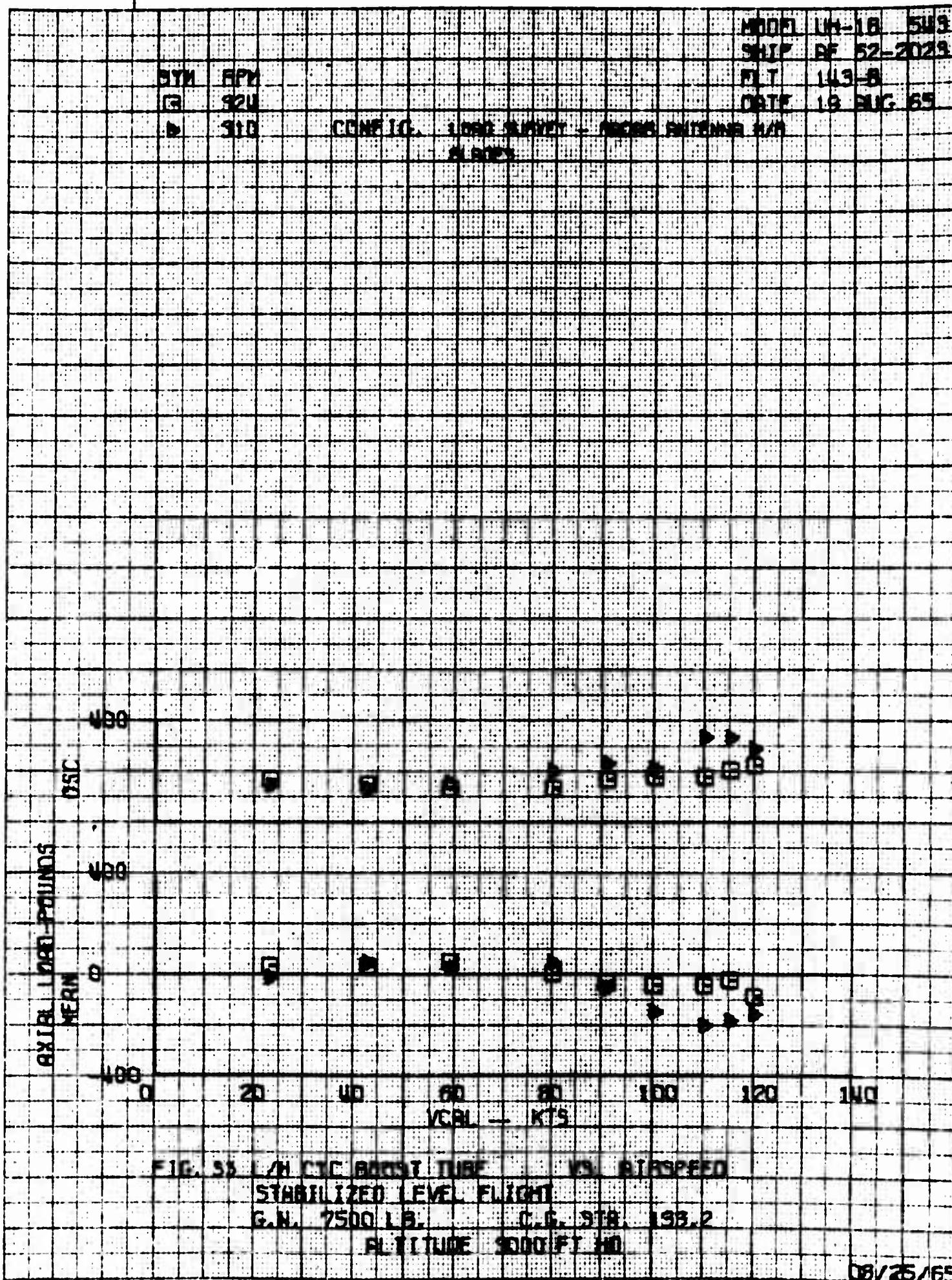




MODEL UH-1B 543
SHIP AF62-2025
FLT 1356
DATE 9 JULY 55



07/17/65



517 512
C 320
D 309

CONFIG: MAX TAKEOFF WEIGHT

MODEL LHC-16 545
S/N 9652-2029
FLT 1556
DATE 9 JULY 55

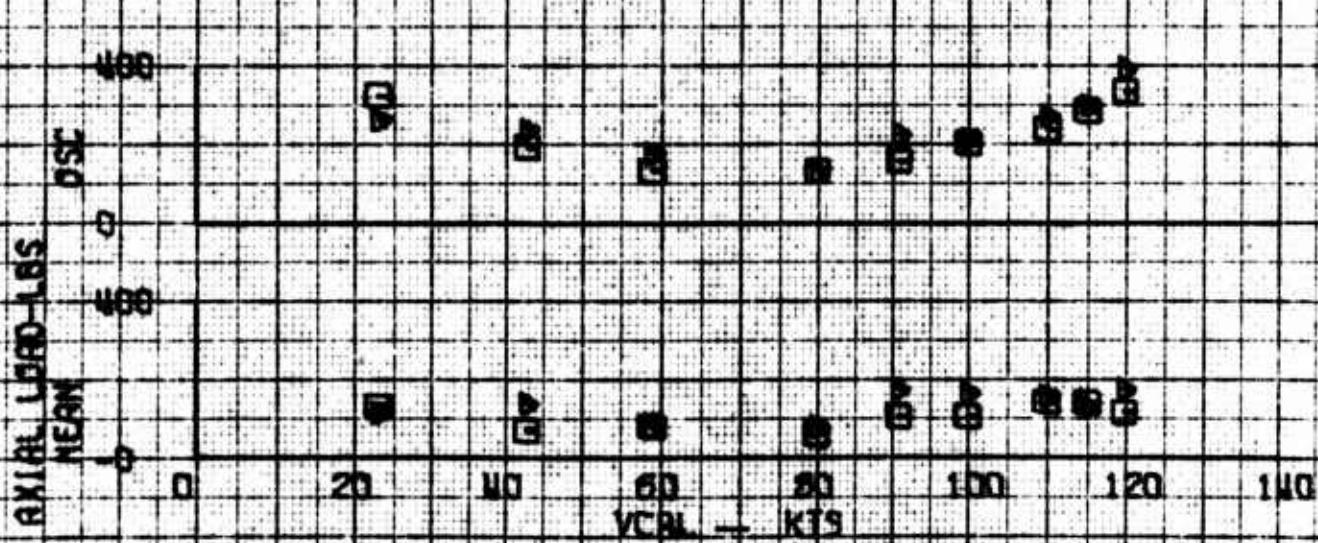


FIG. 54 R/M CTR BREEZE TUBE VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.W. 7500 LB S.D. 0.0, STR 153.2
ALTITUDE 5000 FT MO

07/17/65

SYM F2M
G 92U
D 910

CONF ID: 1000 1000 1000 1000 1000 1000 1000 1000

1000 1000

890

490

090

000

0 20 40 60 80 100 120 140
KTS

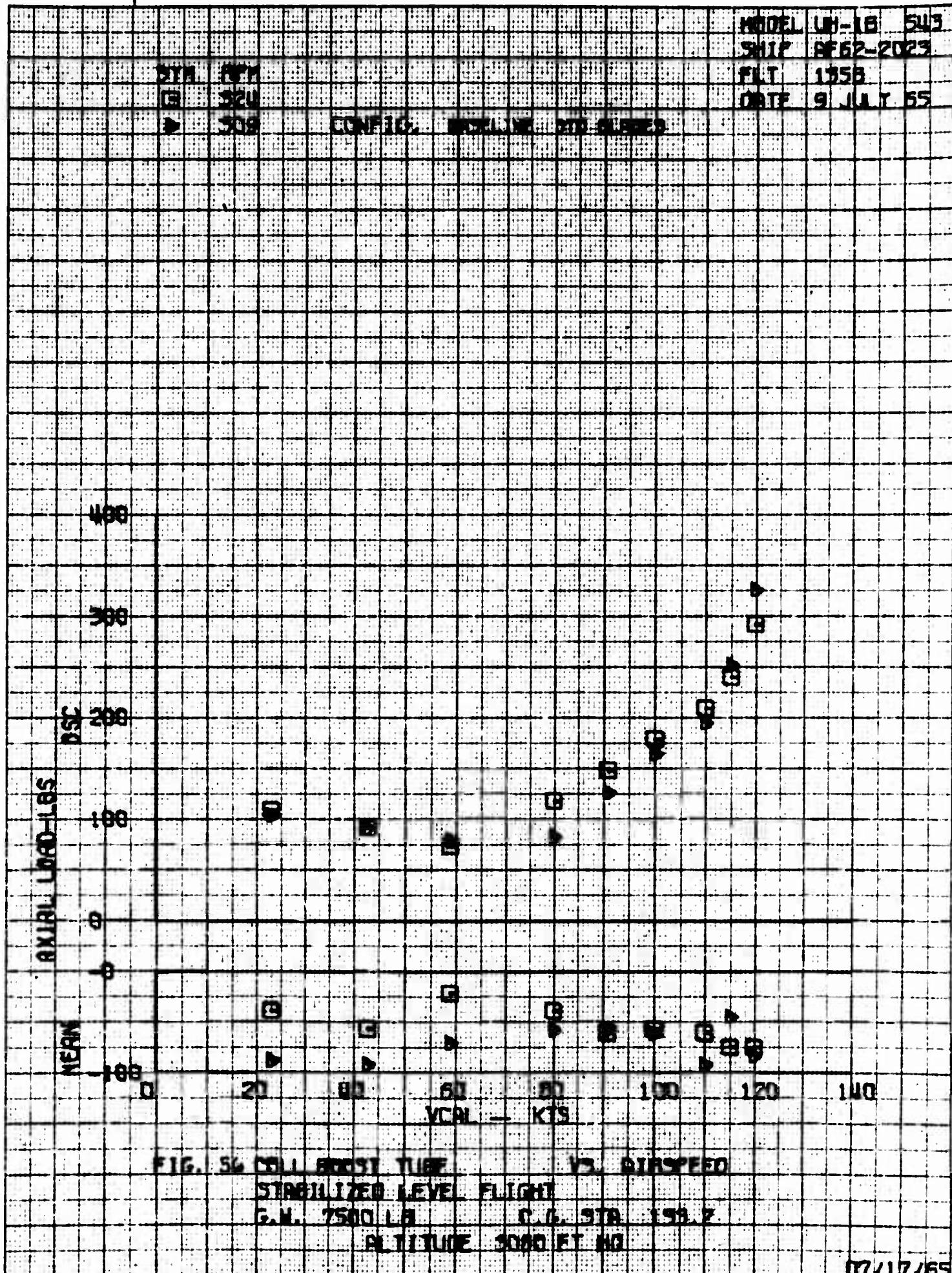
F16, SS P/M, STABILIZED FLIGHT, 1000 AIRSPEED

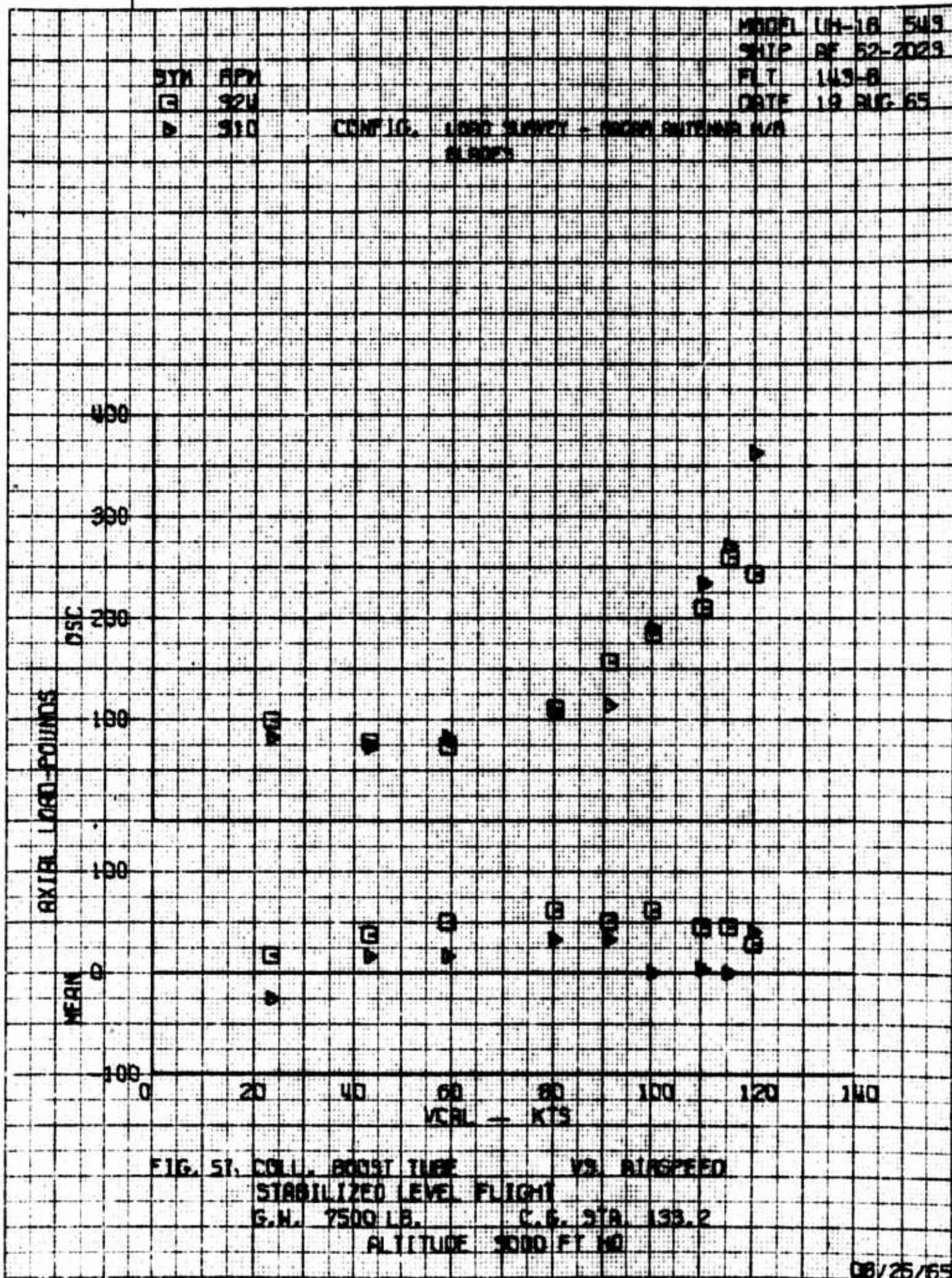
STABILIZED LEVEL FLIGHT

G.M. 7500 LB. T.A.F. 918 138.2

ALTITUDE 3000 FT AG

DB/25/65





MODEL UH-1B 543

SHIP AF62-2023

FIT 1355

DATE 9 JULY 65

CITY HFD

IC 521

DO 508

CONF ID. 0000000000000000

500

500

0

400

0

400

0 20 40 60 80 100 120 140

VCRU - KTS

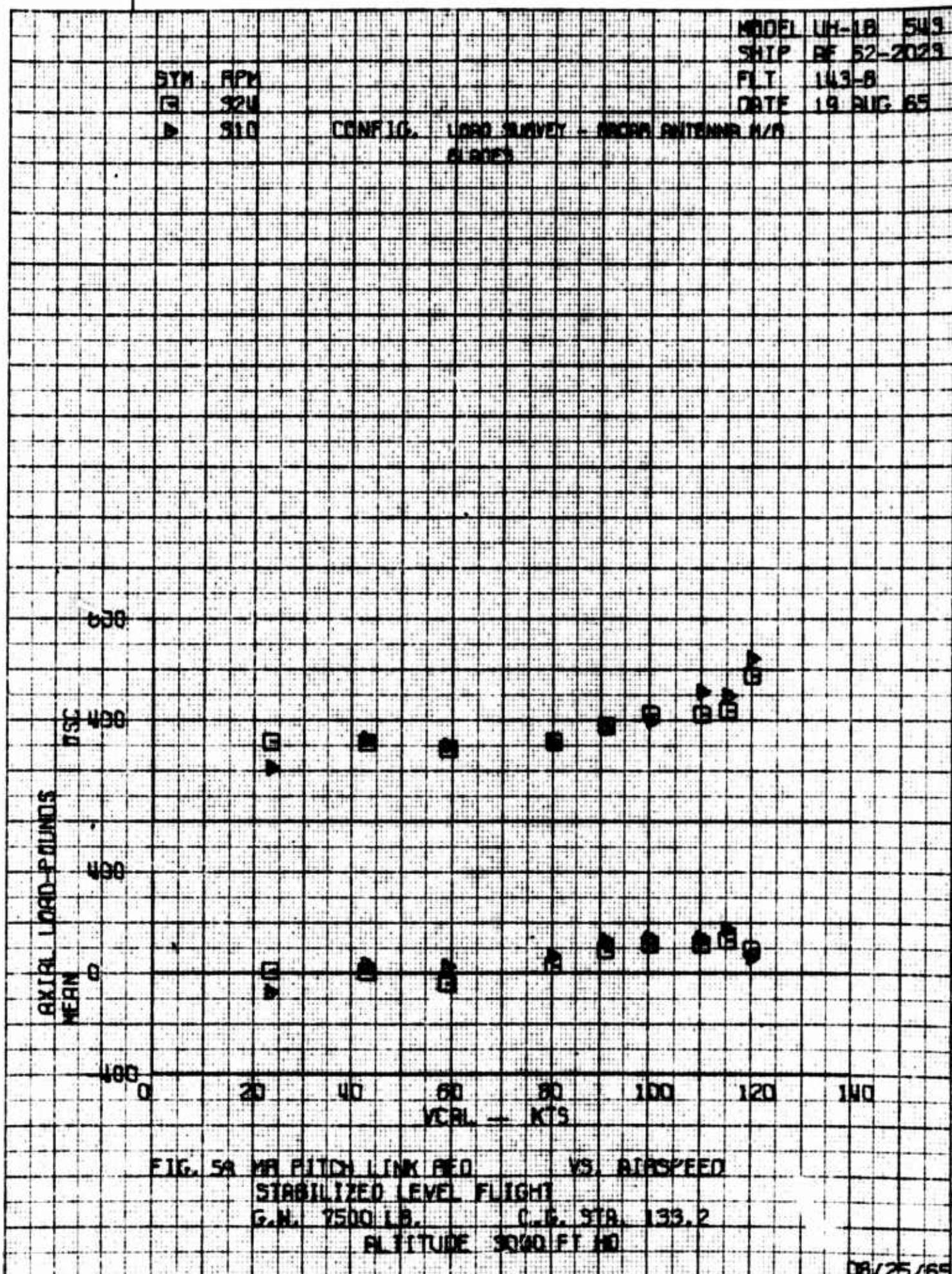
FIG. 5A MM PITCH LINK PED VS AIRSPEED

STABILIZED EME FLIGHT

G.W. 7500 LBS C.G. STA 133.2

ALTITUDE 3000 FT HD

07/17/65



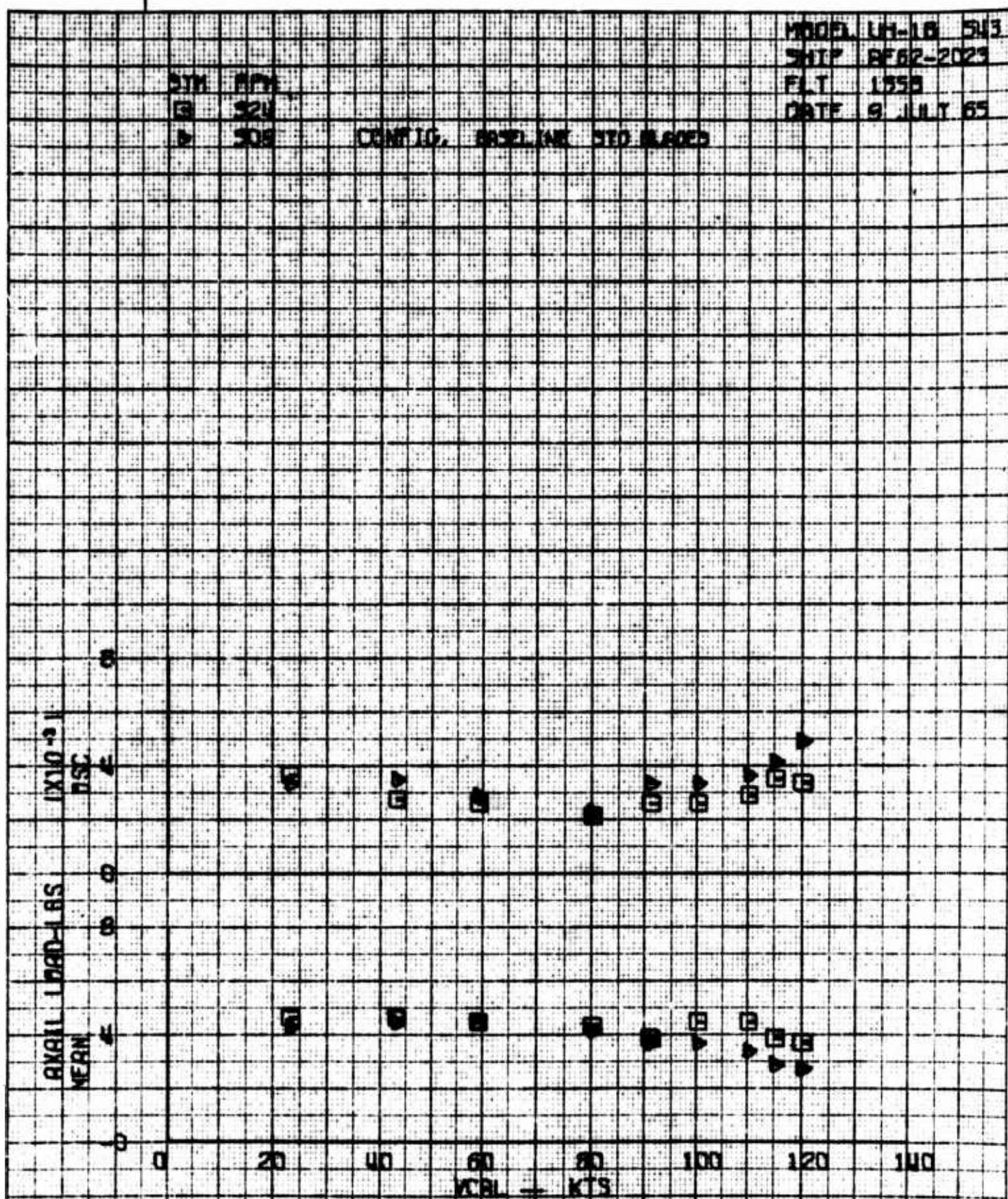
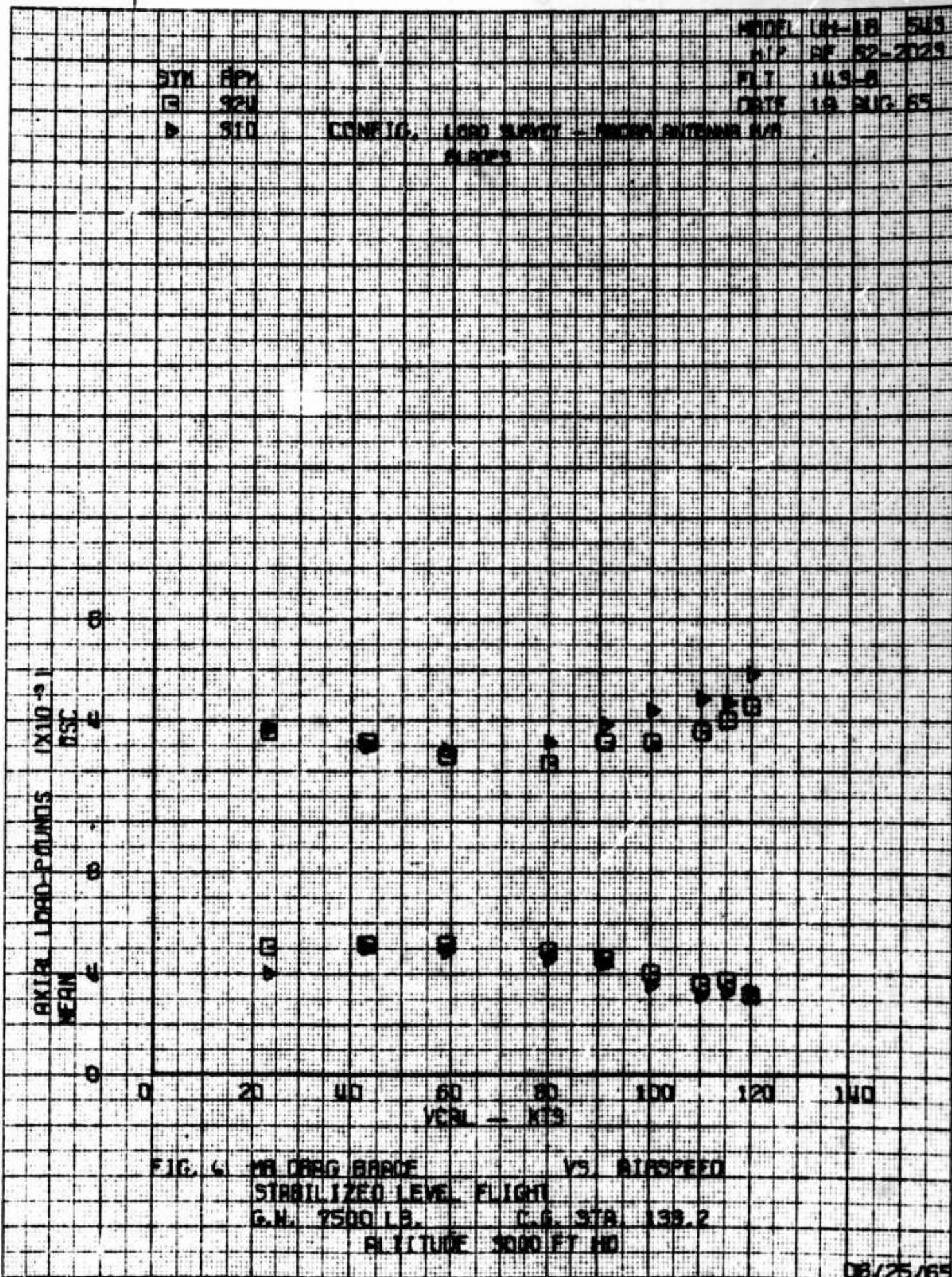


FIG. 60 MR DRAG BRIDGE VS AIRSPEED
STABILIZED LEVEL FLIGHT
G.M. 7500 LB C.G. STR 153.2
LATITUDE 3000 FT NO



MODEL LH-1B 543
SHIP BE62-2023
FLT 1356
DATE 9 JULY 65

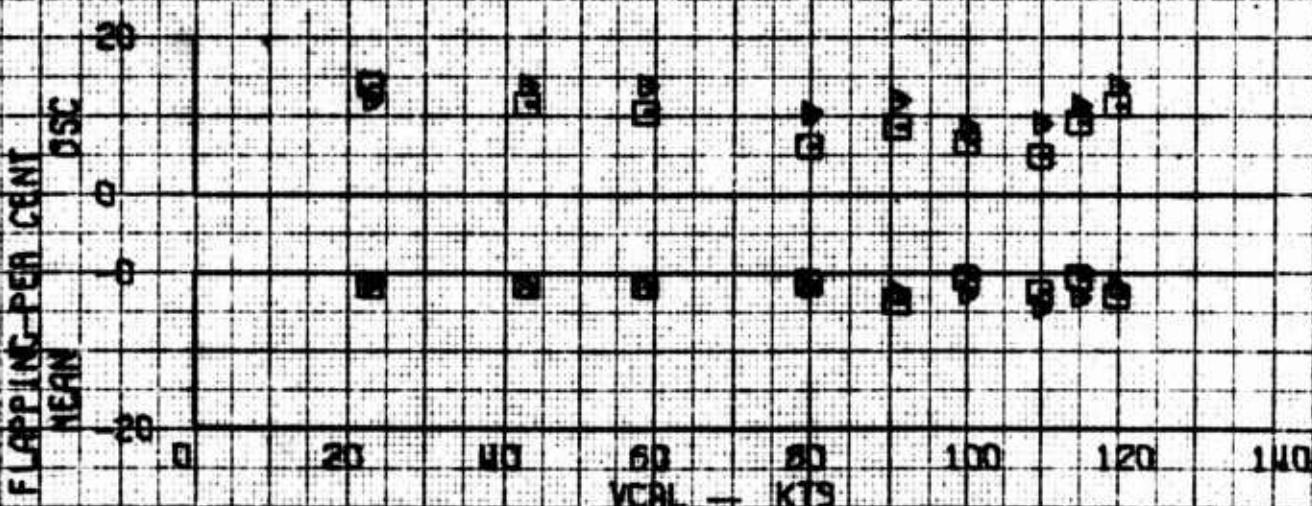


FIG. 42. MEAN FLAPPING VS. AIRSPEED
ST 96111 J 720 LEVEL FLIGHT
GAM 7500 ft R.S. 318 198.2
ALTITUDE 3000 FT MD

07/17/65

MODEL UH-1B 519
SHIP AF 62-2029
E/T 143-B
DATE 19 JUL 65

511 RPM
C 50T

510 CIRCUIT 1000V AC VACUUM ANTENNA 1/2
AFC

FREQUENCY PER CENT
DEG

0 20 40 60 80 100 120 140
VOL KTS

FIG. 63 MR FLAPPING VS AIRSPEED
STABILIZED EME FLIGHT
G.M. 7500 LB CAP STR 133.2
PLATE 3000 FT HD

03/25/65

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REPORT 204-100-113

MODEL UH-1B 543

SHIP BF60-2029

FLT 1353

DATE 9 JULY 65

TEST NUMBER 1000, TEST NUMBER 1000

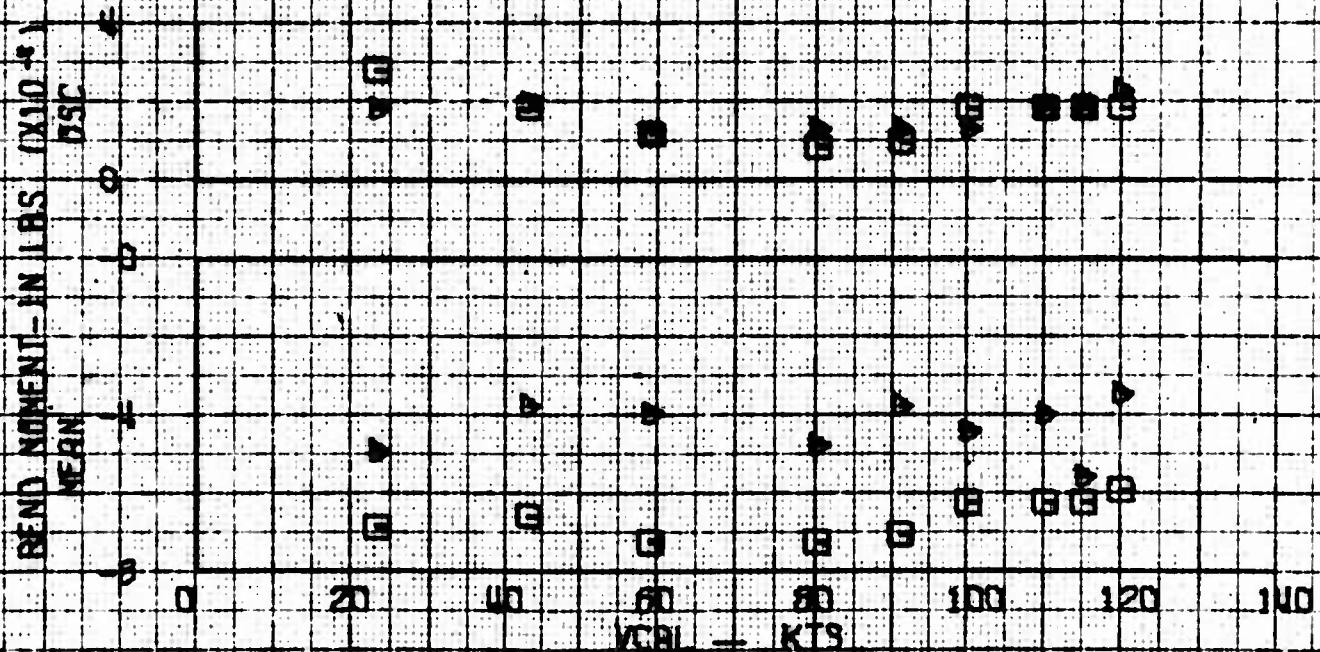


FIG. 64 ME YAW FM STA 6.0 VS AIRSPEED

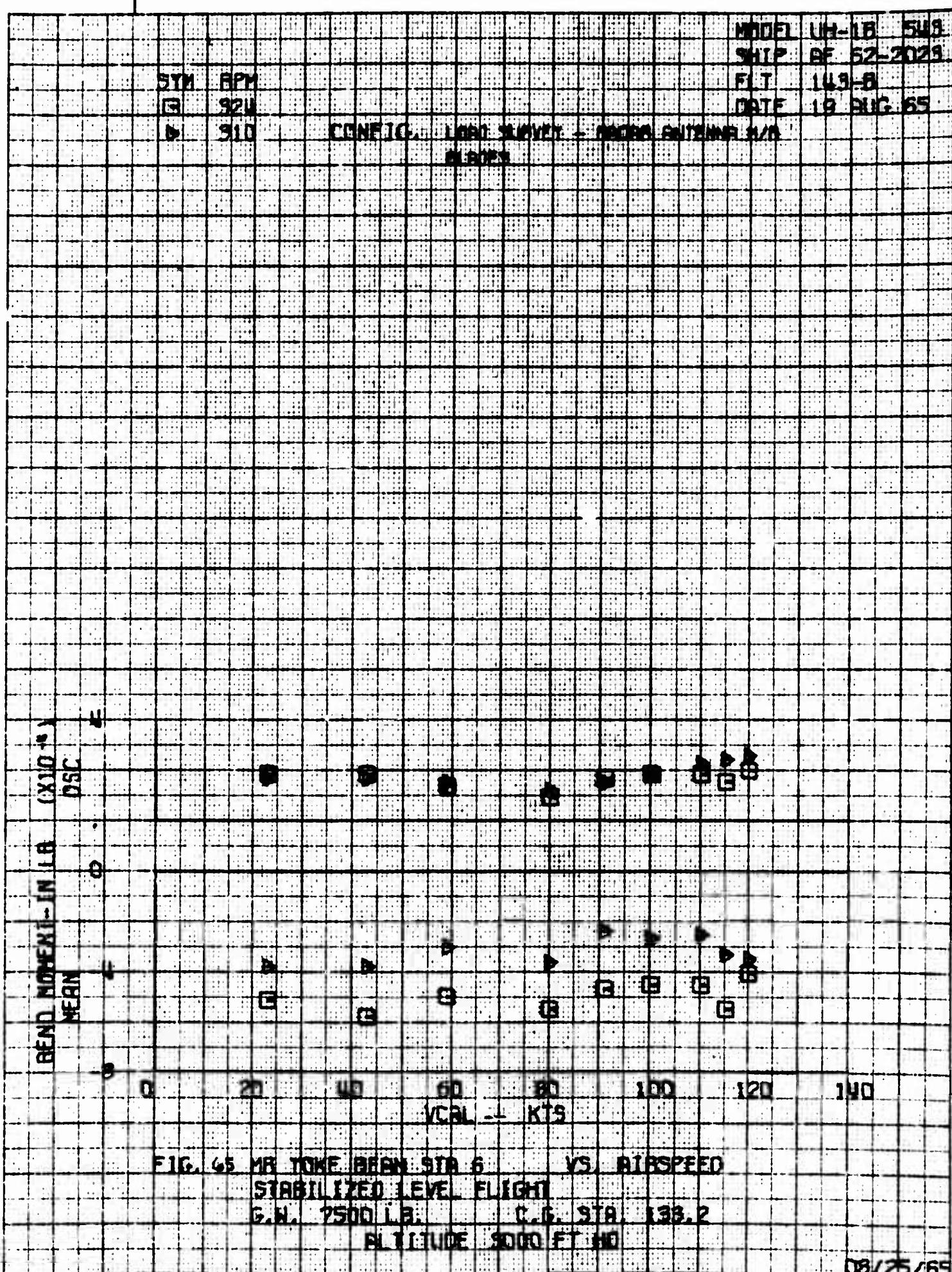
STABILIZED FWD FLIGHT

C.W. 7500 LBS

T.C. STA 133.2

ALTITUDE 5000 FT HD

17/17/65



MODEL UH-1B 543
SHIP BF62-2023
FLT 1225
DATE 9 JULY 55

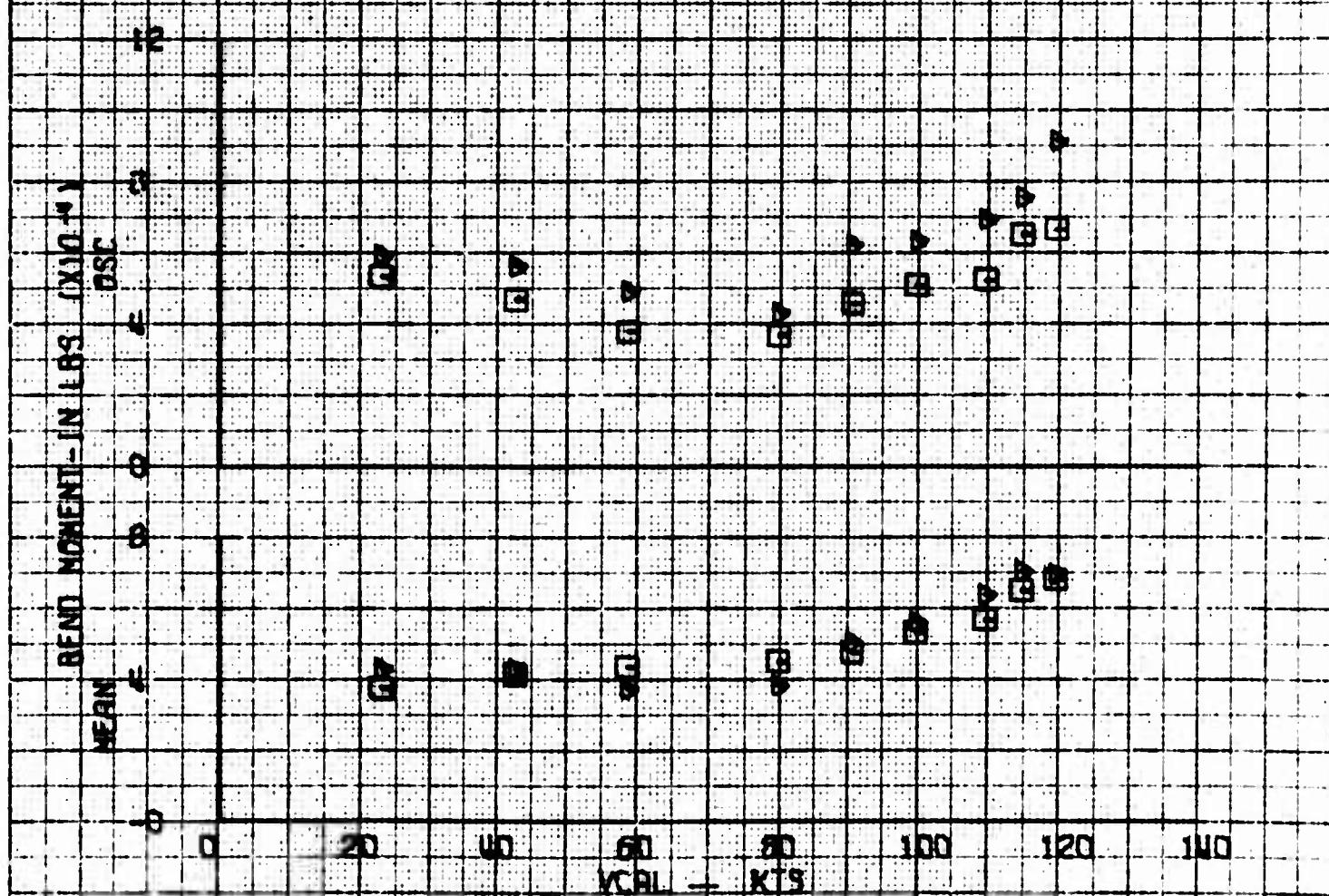
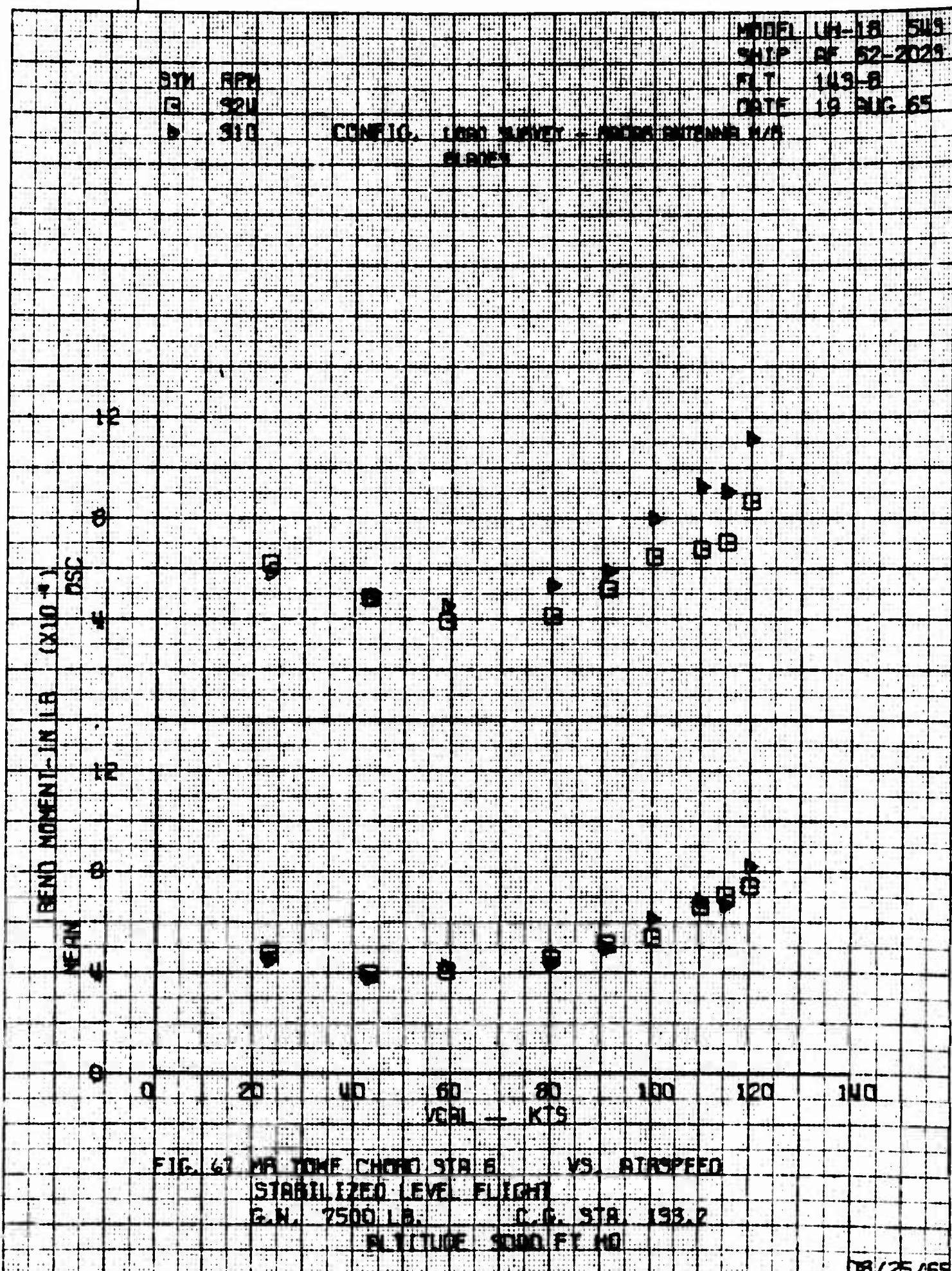


FIG. 4. MEAN BEND MOMENT VS. AIRSPEED
STABILIZED EMF FLIGHT
3 M. 7500 ft. C.G. STA 133.2
ROLLING STAB F. 10

7/17/65



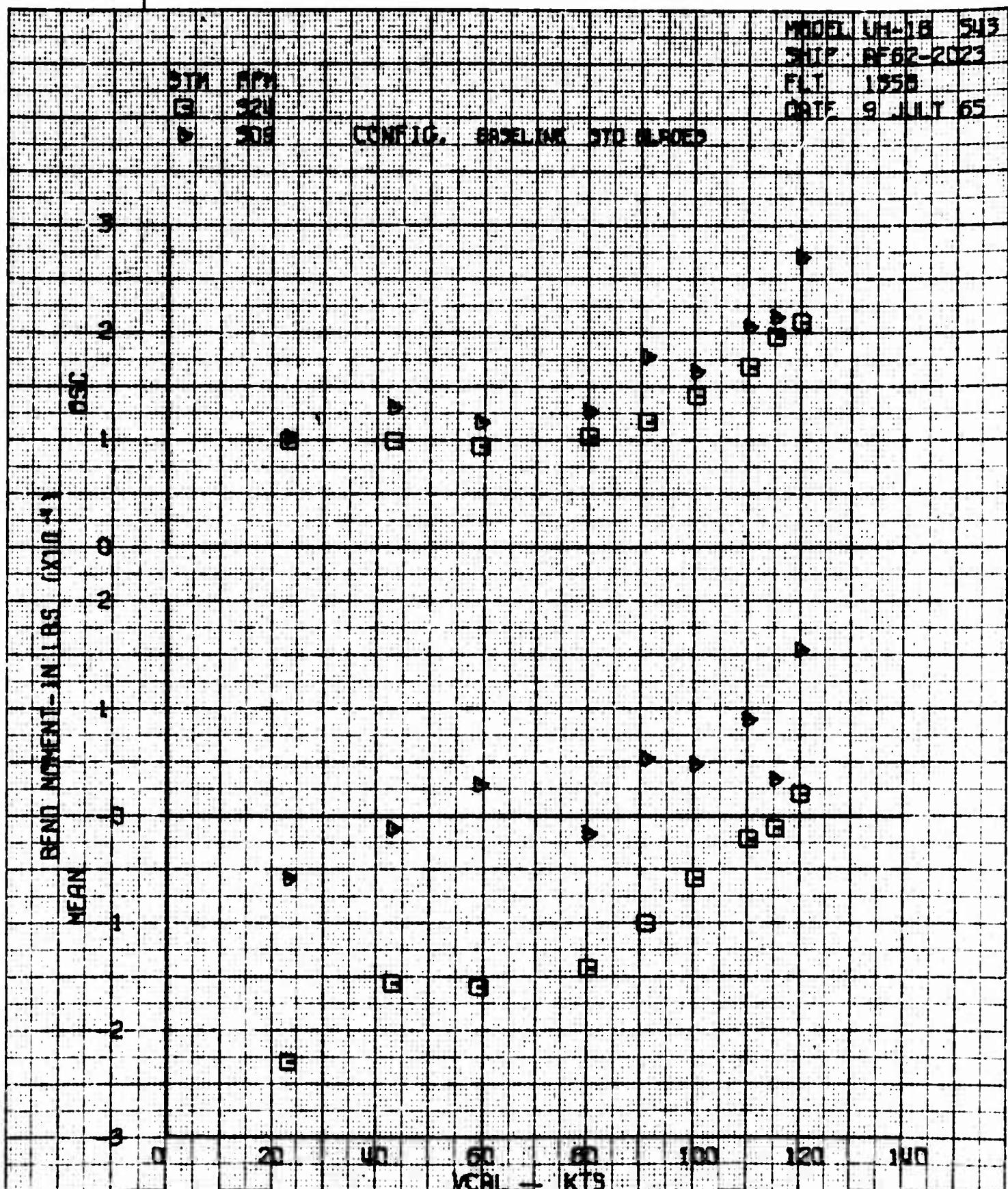
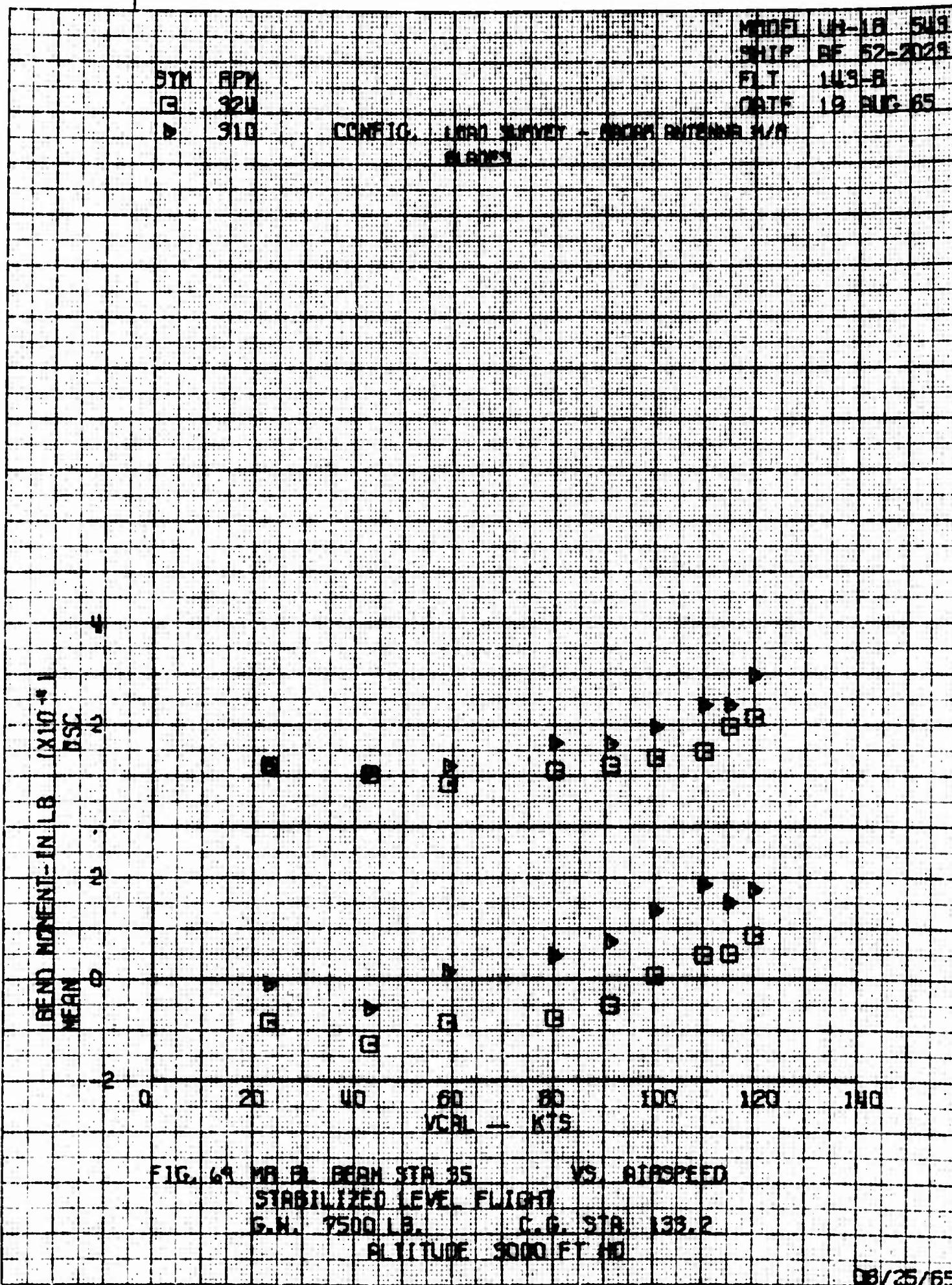


FIG. 43 ME FIELD STA 35 VS BISPEF
STABILIZED FME FLIGHT
G.N. 7500 LB G.C. STA 153.2
ALTITUDE 5000 FT HD



MODEL UH-1B 543
SHIP AF62-2023
FLT 155B
DATE 9 JULY 65

C11

C12

C13

C14

C15

C16

C17

C18

C19

C20

C21

C22

C23

C24

C25

C26

C27

C28

C29

C30

C31

C32

C33

C34

C35

C36

C37

C38

C39

C40

C41

C42

C43

C44

C45

C46

C47

C48

C49

C50

C51

C52

C53

C54

C55

C56

C57

C58

C59

C60

C61

C62

C63

C64

C65

C66

C67

C68

C69

C70

C71

C72

C73

C74

C75

C76

C77

C78

C79

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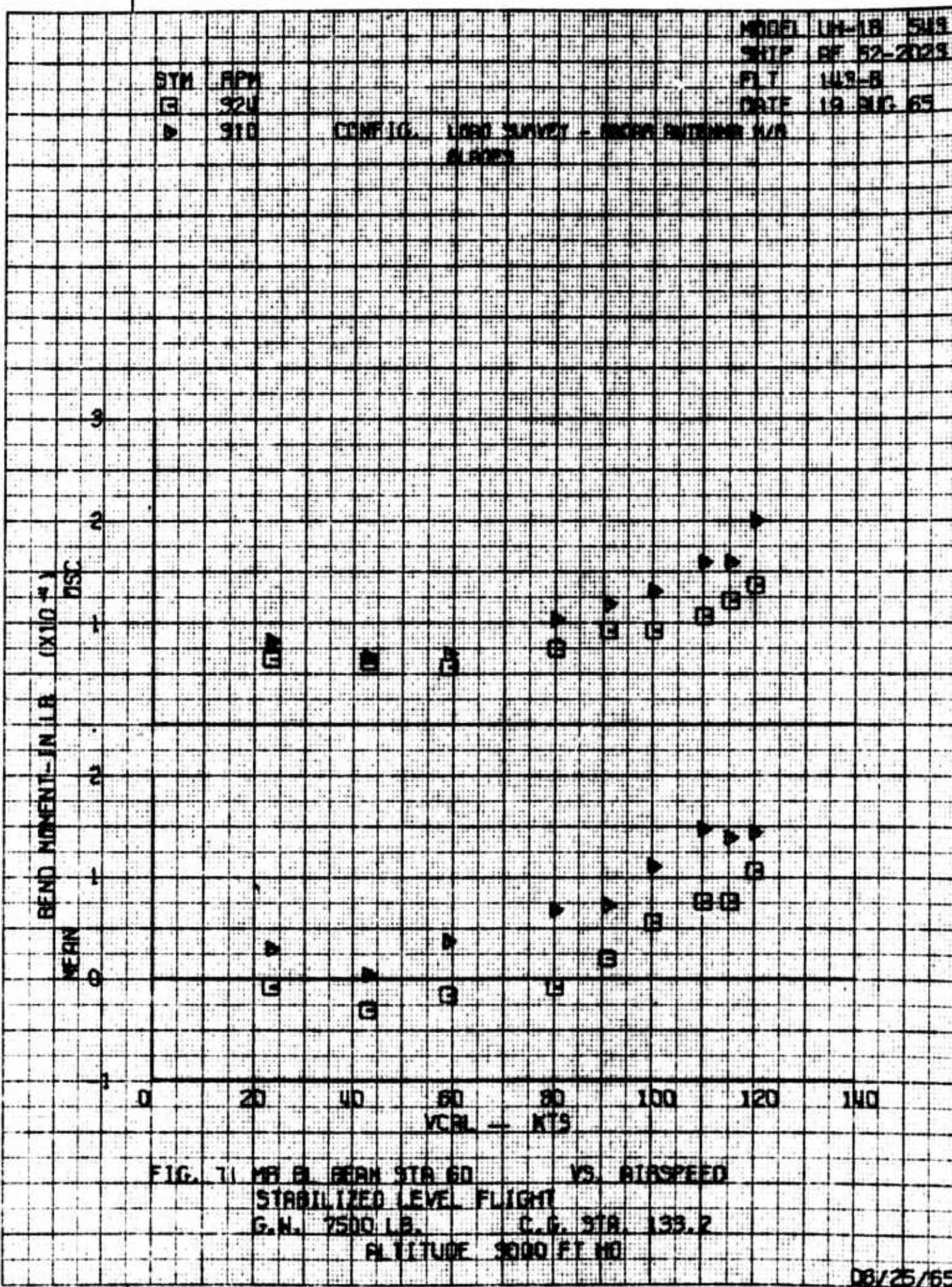
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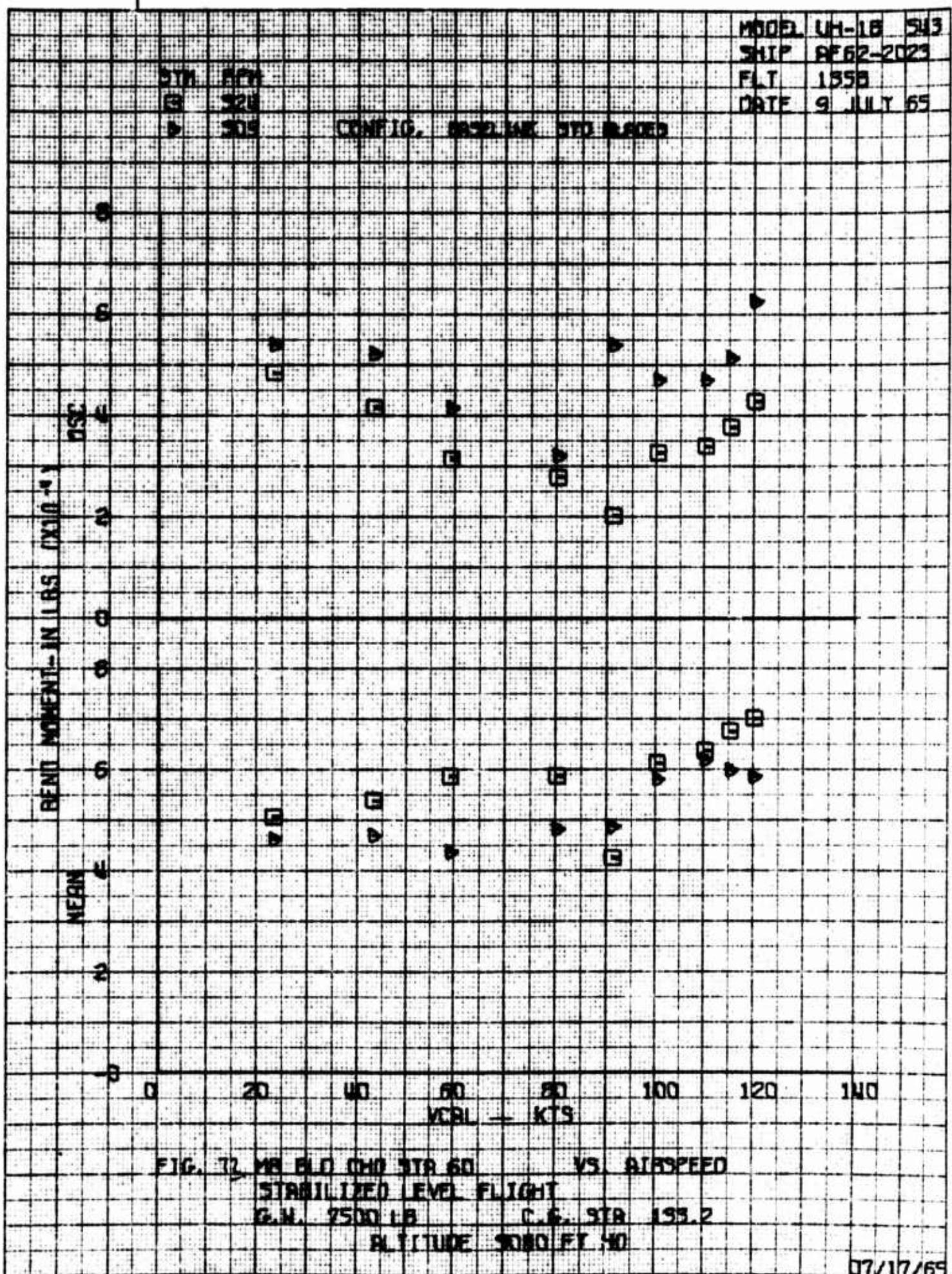
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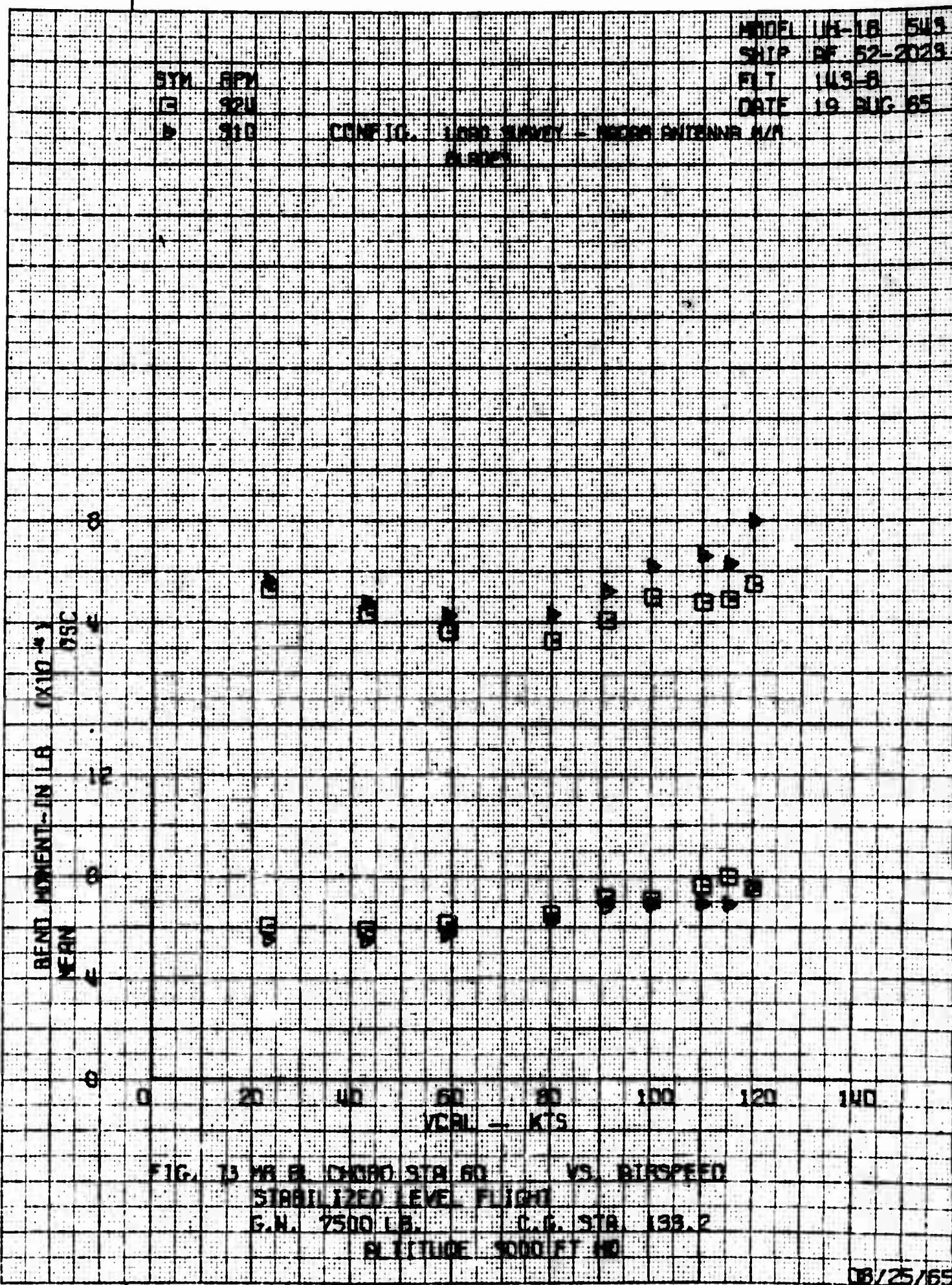
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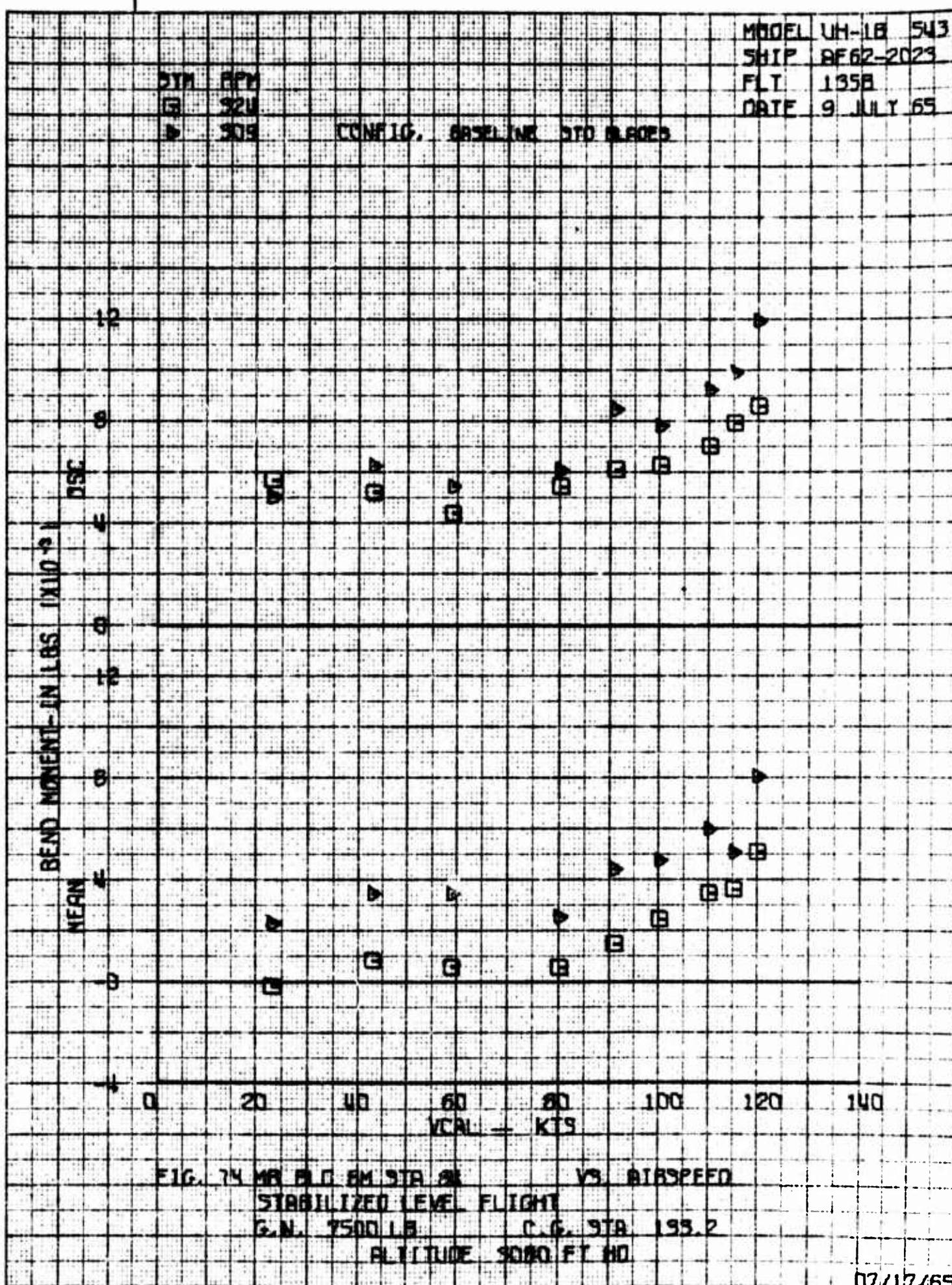
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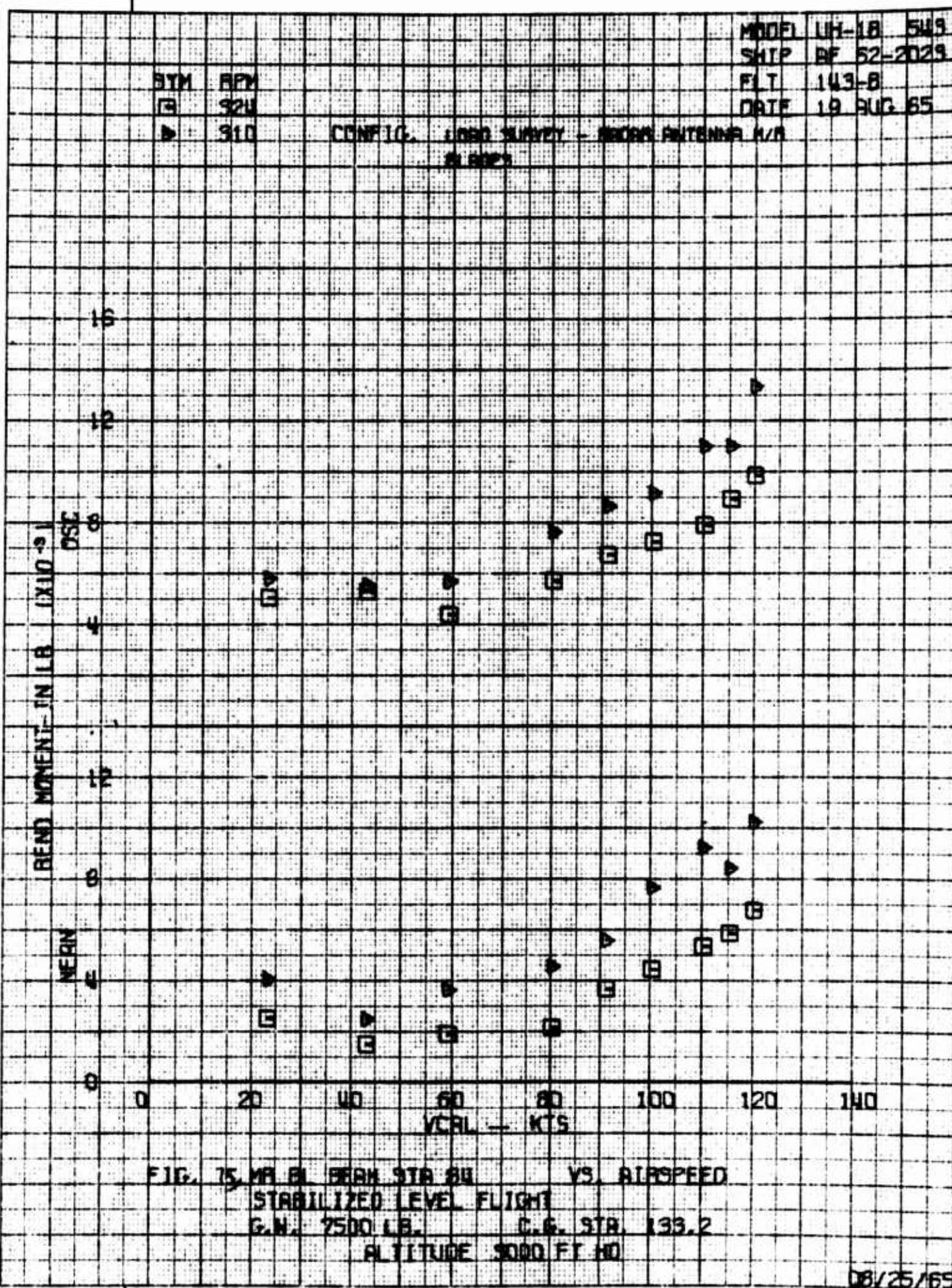
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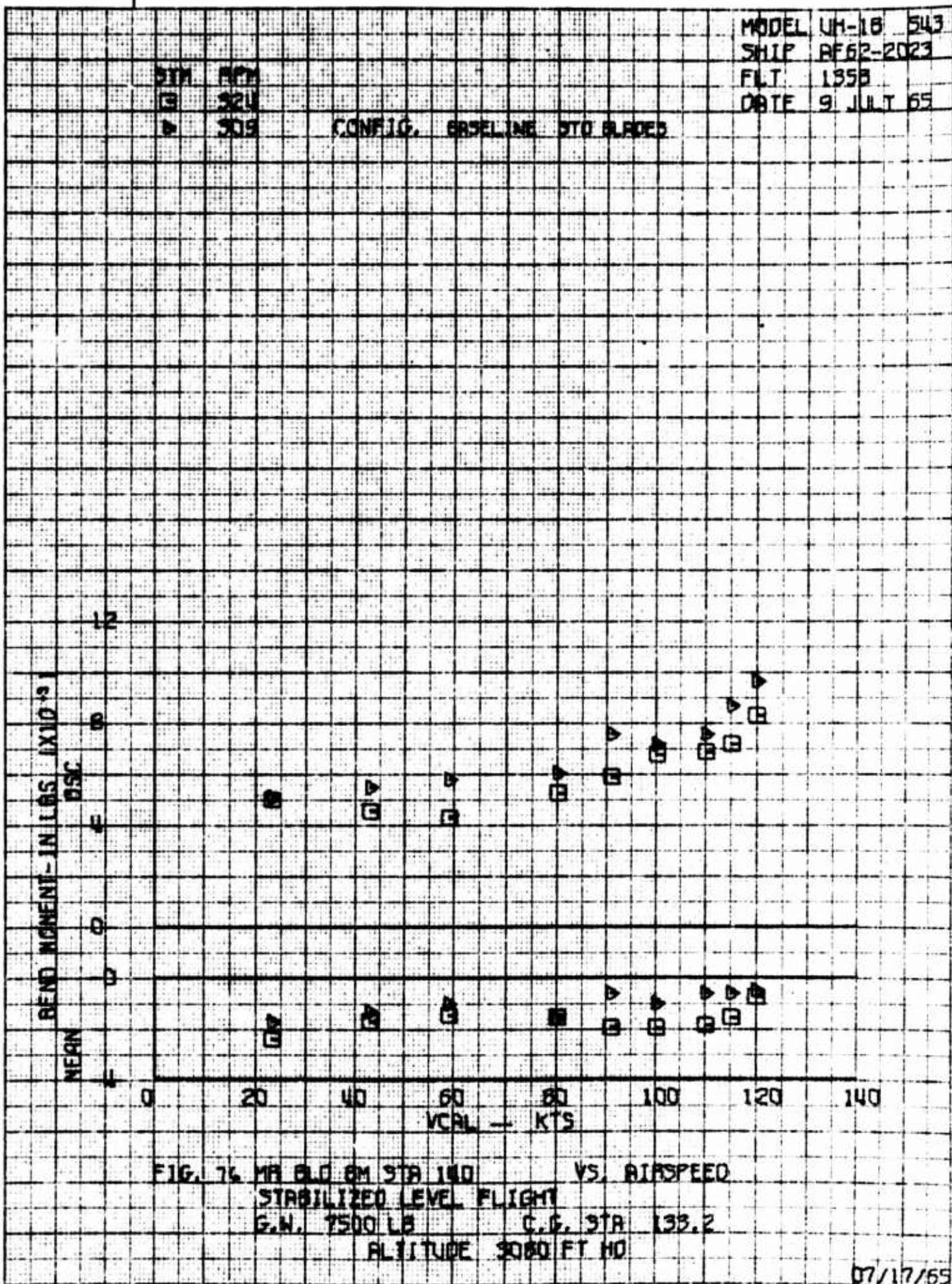


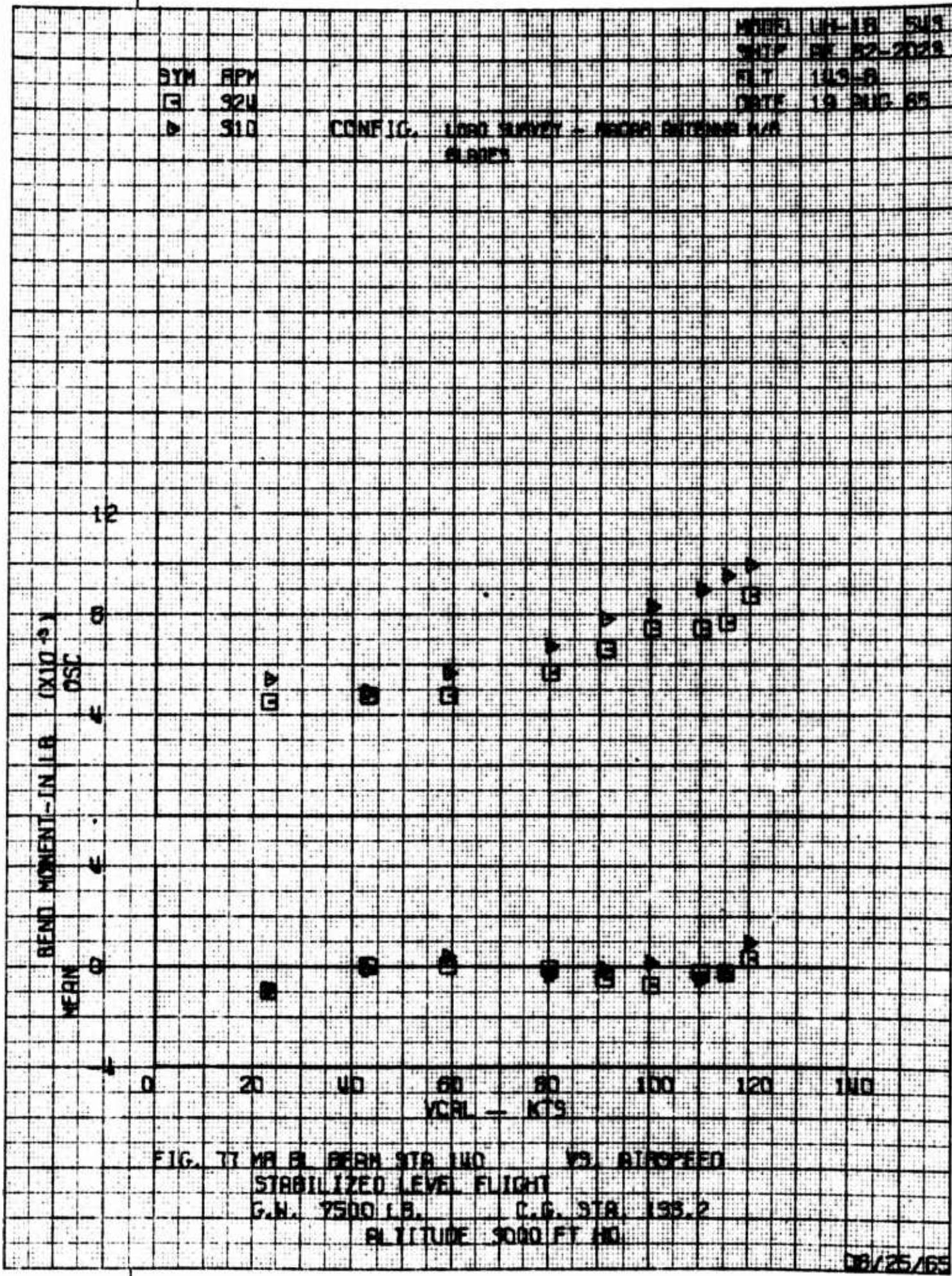


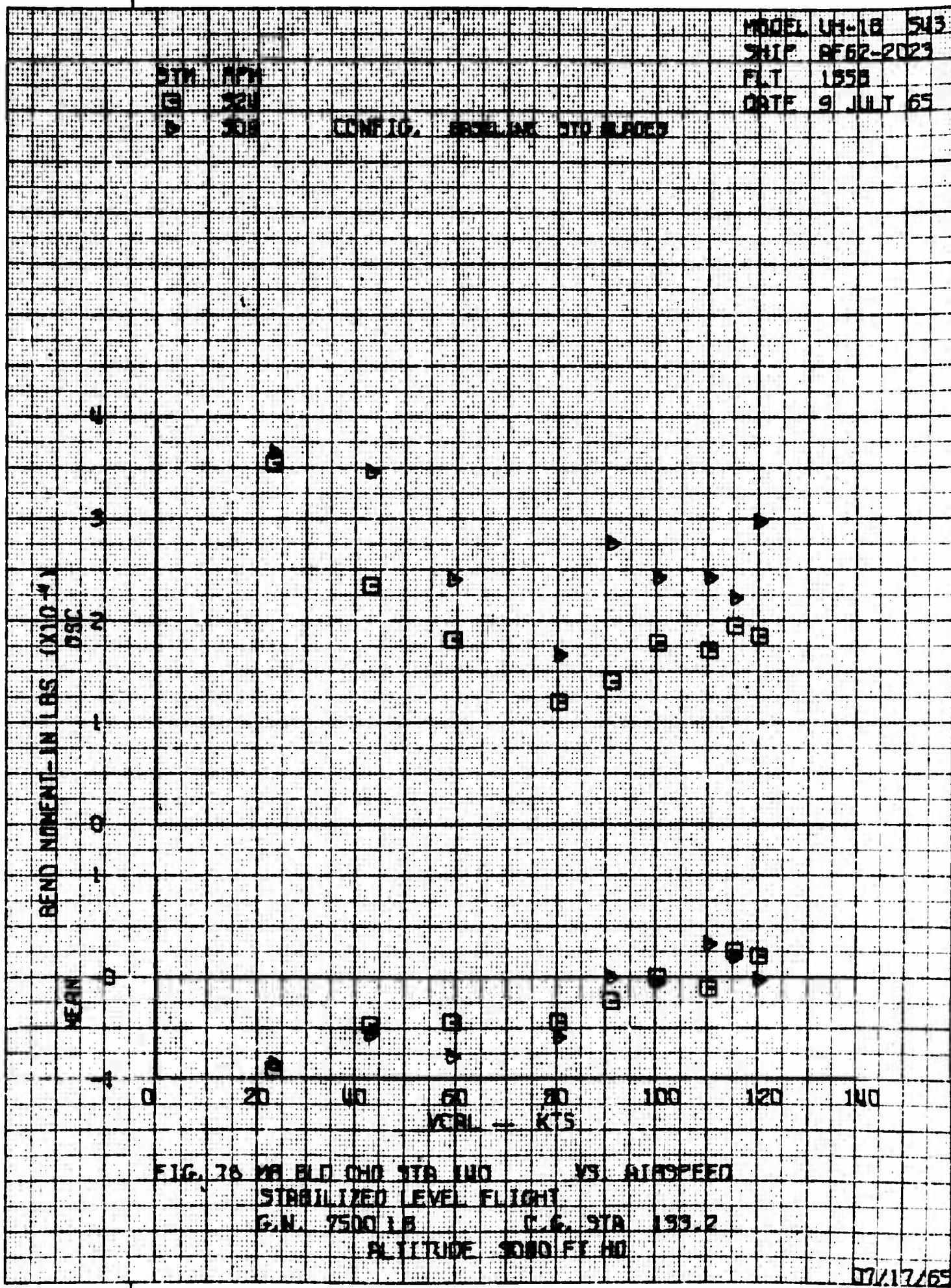


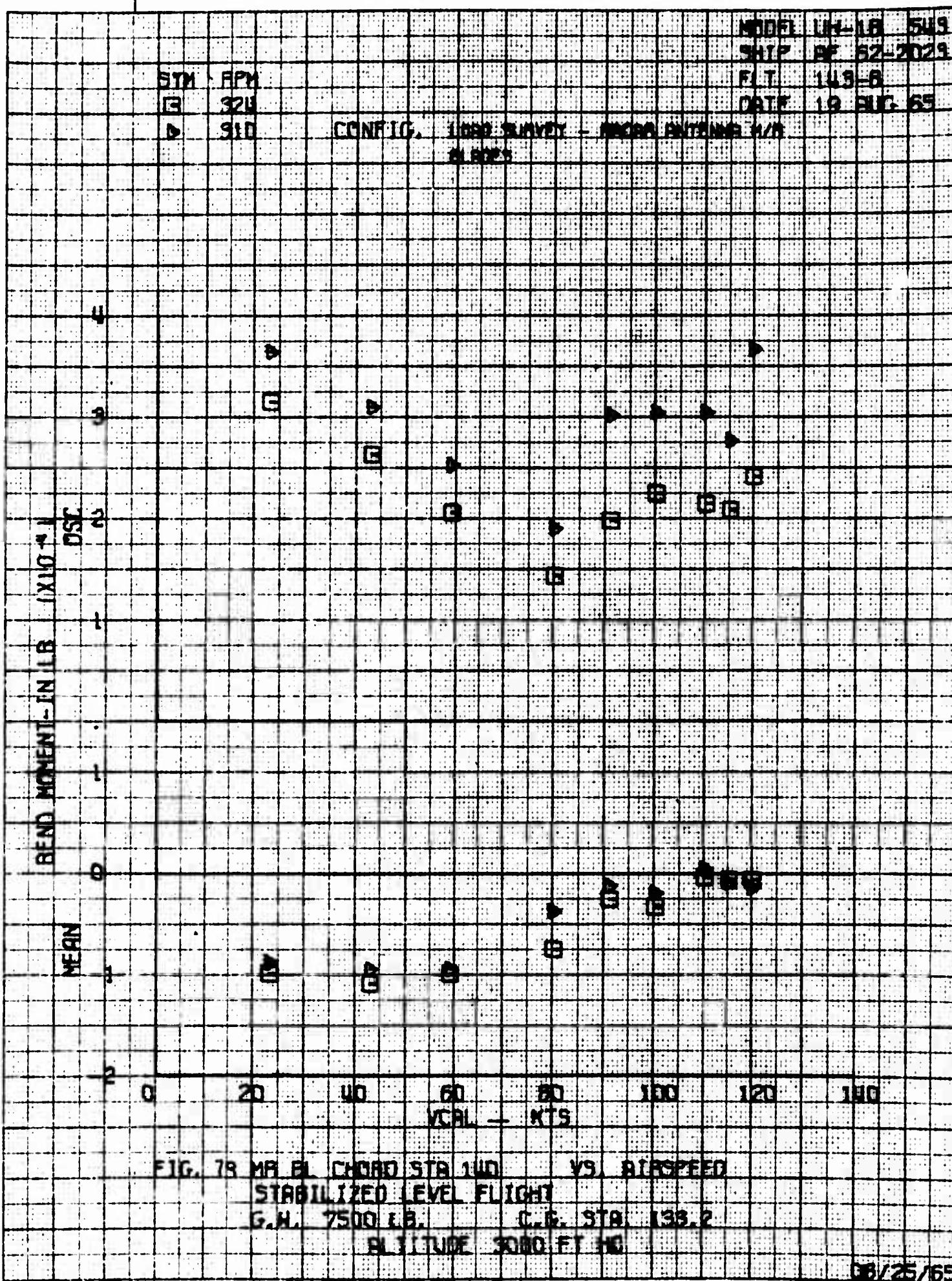












03/25/65

BY J. Mangum
CHECKED R.H.Wheelock

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APPENDIX E

Tabulated Load Level Data

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 135A
SHIP LF62-2023 DATE 9 JULY 65

6. W. 7500 FT C.G. STA 125.4 ALT. 3000 FT HD
Osc. NO. 1

CTR	MC.	TEST CONDITION	RPM	VCAL	MR BLD BM STA 140	KTS MEAN OSC
495		STABILIZED LEVEL FLIGHT	309	23.0	-1712.500	6187.500
496		STABILIZED LEVEL FLIGHT	309	43.0	-1162.500	4812.500
497		STABILIZED LEVEL FLIGHT	309	59.0	-1162.500	5362.500
498		STABILIZED LEVEL FLIGHT	309	80.0	-887.500	6462.500
499		STABILIZED LEVEL FLIGHT	309	91.0	-750.000	7425.000
500		STABILIZED LEVEL FLIGHT	309	100.0	-750.000	7425.000
501		STABILIZED LEVEL FLIGHT	309	110.0	-750.000	8525.000
502		STABILIZED LEVEL FLIGHT	309	115.0	-612.500	8387.500
503		STABILIZED LEVEL FLIGHT	309	120.0	-750.000	9900.000
504		STABILIZED LEVEL FLIGHT	324	23.0	-1712.500	4812.500
505		STABILIZED LEVEL FLIGHT	324	43.0	-887.500	4262.500
506		STABILIZED LEVEL FLIGHT	324	59.0	-1437.500	4537.500
507		STABILIZED LEVEL FLIGHT	324	80.0	-887.500	5912.500
508		STABILIZED LEVEL FLIGHT	324	91.0	-1712.500	6737.500
509		STABILIZED LEVEL FLIGHT	324	100.0	-1575.000	7150.000
510		STABILIZED LEVEL FLIGHT	324	110.0	-1712.500	6737.500
511		STABILIZED LEVEL FLIGHT	324	115.0	-1712.500	7562.500
512		STABILIZED LEVEL FLIGHT	324	120.0	-1162.500	8112.500

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 135A C.W. 7500 LB ALT. 3000 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 125.4 OSC. NO. 1

CTR	NO.	TEST CONDITION	VRPH	VCAL	MR BLD BM STA 34
			KTS	MEAN	OSC
	495	STABILIZED LEVEL FLIGHT	309	23.0	2129.880
	496	STABILIZED LEVEL FLIGHT	309	43.0	2533.920
	497	STABILIZED LEVEL FLIGHT	309	59.0	2399.240
	498	STABILIZED LEVEL FLIGHT	309	80.0	3746.040
	499	STABILIZED LEVEL FLIGHT	309	91.0	5631.560
	500	STABILIZED LEVEL FLIGHT	309	100.0	6304.960
	501	STABILIZED LEVEL FLIGHT	309	110.0	7786.440
	502	STABILIZED LEVEL FLIGHT	309	115.0	6709.000
	503	STABILIZED LEVEL FLIGHT	309	120.0	8594.520
	504	STABILIZED LEVEL FLIGHT	324	23.0	1052.440
	505	STABILIZED LEVEL FLIGHT	324	43.0	917.760
	506	STABILIZED LEVEL FLIGHT	324	59.0	-25.000
	507	STABILIZED LEVEL FLIGHT	324	80.0	2399.240
	508	STABILIZED LEVEL FLIGHT	324	91.0	3476.680
	509	STABILIZED LEVEL FLIGHT	324	100.0	4823.480
	510	STABILIZED LEVEL FLIGHT	324	110.0	2668.600
	511	STABILIZED LEVEL FLIGHT	324	115.0	4823.480
	512	STABILIZED LEVEL FLIGHT	324	120.0	6439.640

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BASELINE STD BLADES

MODEL UH-16 543 FLT. 135A
SHIP AF62-2023 DATE 9 JULY 65 C.W. 7500 LB C.G. STA 125.4 OSC. NO. 1 ALT. 3000 FT HD

CTR NO.	TEST CONDITION	RPM	KTS	VCAL MEAN	MR BLD BM STA 60 CSC
495	STABILIZED LEVEL FLIGHT	309	23.0	1488.400	9567.900
496	STABILIZED LEVEL FLIGHT	309	43.0	159.525	7175.925
497	STABILIZED LEVEL FLIGHT	309	59.0	1754.175	6112.825
498	STABILIZED LEVEL FLIGHT	309	80.0	4411.925	9302.125
499	STABILIZED LEVEL FLIGHT	309	91.0	7069.675	12491.425
500	STABILIZED LEVEL FLIGHT	309	100.0	9727.425	11428.325
501	STABILIZED LEVEL FLIGHT	309	110.0	12650.950	13286.750
502	STABILIZED LEVEL FLIGHT	309	115.0	10258.975	14617.625
503	STABILIZED LEVEL FLIGHT	309	120.0	12916.725	18338.475
504	STABILIZED LEVEL FLIGHT	324	23.0	-4092.875	7175.925
505	STABILIZED LEVEL FLIGHT	324	43.0	-2498.225	5581.275
506	STABILIZED LEVEL FLIGHT	324	59.0	-3827.100	5847.050
507	STABILIZED LEVEL FLIGHT	324	80.0	2551.500	9036.350
508	STABILIZED LEVEL FLIGHT	324	91.0	3614.600	7973.250
509	STABILIZED LEVEL FLIGHT	324	100.0	6538.125	10365.225
510	STABILIZED LEVEL FLIGHT	324	110.0	1754.175	9833.675
511	STABILIZED LEVEL FLIGHT	324	115.0	5740.800	11162.550
512	STABILIZED LEVEL FLIGHT	324	120.0	7601.225	14086.075

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BASELINE STD BLADES

MODEL UH-1E 543 FLT. 135A C-W. 7500 LS ALT. 3000 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 125.4 OSC. NO. 1

CTR	TEST CONDITION	RPM	VCAL	MR BLD BM STA 35	MEAN	OSC.
495	STABILIZED LEVEL FLIGHT	309	23.0	-5858.600	13908.000	
496	STABILIZED LEVEL FLIGHT	309	43.0	-2613.401	10662.800	
497	STABILIZED LEVEL FLIGHT	309	59.0	-759.000	9735.600	
498	STABILIZED LEVEL FLIGHT	309	80.0	631.800	13908.000	
499	STABILIZED LEVEL FLIGHT	309	91.0	8049.400	18544.000	
500	STABILIZED LEVEL FLIGHT	309	100.0	10367.400	17153.200	
501	STABILIZED LEVEL FLIGHT	309	110.0	18248.599	21325.600	
502	STABILIZED LEVEL FLIGHT	309	115.0	10367.399	22716.400	
503	STABILIZED LEVEL FLIGHT	309	120.0	17321.399	27816.000	
504	STABILIZED LEVEL FLIGHT	324	23.0	-15130.600	12980.800	
505	STABILIZED LEVEL FLIGHT	324	43.0	-10494.600	9272.000	
506	STABILIZED LEVEL FLIGHT	324	59.0	-14203.400	10199.200	
507	STABILIZED LEVEL FLIGHT	324	80.0	-1686.200	13444.400	
508	STABILIZED LEVEL FLIGHT	324	91.0	-2149.800	12052.599	
509	STABILIZED LEVEL FLIGHT	324	100.0	5731.400	16226.000	
510	STABILIZED LEVEL FLIGHT	324	110.0	-5395.000	16226.000	
511	STABILIZED LEVEL FLIGHT	324	115.0	3877.000	19934.820	
512	STABILIZED LEVEL FLIGHT	324	120.0	8049.400	21325.600	

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BELL HELICOPTER CO. PROGRAM F03 DATE 07/17/65 PROBLEM 2236 PAGE 5

BASELINE STD BLADES

MODEL UH-1B 543 FLT. 135A C.W. 7500 LB ALT. 3000 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 125.4 CSC. NO. 1

CTR NU.	TEST CONDITION	RPM	VCAL KTS	MR PITCH LINK RED MEAN	CSC
495	STABILIZED LEVEL FLIGHT	309	23.0	117.715	407.475
496	STABILIZED LEVEL FLIGHT	309	42.0	-9.055	316.925
497	STABILIZED LEVEL FLIGHT	309	59.0	-0.000	269.760
498	STABILIZED LEVEL FLIGHT	309	80.0	36.220	325.980
499	STABILIZED LEVEL FLIGHT	309	91.0	161.100	344.090
500	STABILIZED LEVEL FLIGHT	309	100.0	126.770	434.640
501	STABILIZED LEVEL FLIGHT	309	110.0	153.935	534.245
502	STABILIZED LEVEL FLIGHT	309	115.0	108.660	597.630
503	STABILIZED LEVEL FLIGHT	309	120.0	144.880	742.510
504	STABILIZED LEVEL FLIGHT	324	23.0	-9.055	371.255
505	STABILIZED LEVEL FLIGHT	324	43.0	-45.275	298.815
506	STABILIZED LEVEL FLIGHT	324	59.0	-81.495	262.595
507	STABILIZED LEVEL FLIGHT	324	80.0	45.275	353.145
508	STABILIZED LEVEL FLIGHT	324	91.0	81.495	407.475
509	STABILIZED LEVEL FLIGHT	324	100.0	117.715	443.695
510	STABILIZED LEVEL FLIGHT	324	110.0	99.605	479.915
511	STABILIZED LEVEL FLIGHT	324	115.0	144.880	525.190
512	STABILIZED LEVEL FLIGHT	324	120.0	72.440	615.740

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BASELINE STD BLADES

MODEL UH-1B 543 FLI. 135A S.W. 7500 LB ALT. 3000 FT HC
SHIP AF52-2023 DATE 9 JULY 65 C.G. STA 125.4 OSC. NC. 1

CTR NO.	TEST CONDITION	RPM	VCAL KTS	MR DRAG MEAN	BRACE GSC
495	STABILIZED LEVEL FLIGHT	309	23.0	-101.40	4609.800
496	STABILIZED LEVEL FLIGHT	309	45.0	-101.40	3841.500
497	STABILIZED LEVEL FLIGHT	309	55.0	-101.40	2919.540
498	STABILIZED LEVEL FLIGHT	309	85.0	-101.40	440
499	STABILIZED LEVEL FLIGHT	309	91.0	-101.40	4148.820
500	STABILIZED LEVEL FLIGHT	309	100.0	-102.04	3841.500
501	STABILIZED LEVEL FLIGHT	309	110.0	-115.14	3995.160
502	STABILIZED LEVEL FLIGHT	309	115.0	-120.40	4456.140
503	STABILIZED LEVEL FLIGHT	309	120.0	-107.30	5224.440
504	STABILIZED LEVEL FLIGHT	324	23.0	-107.50	3534.180
505	STABILIZED LEVEL FLIGHT	324	43.0	-101.40	3073.200
506	STABILIZED LEVEL FLIGHT	324	53.0	-107.60	2612.220
507	STABILIZED LEVEL FLIGHT	324	80.0	-107.50	3534.180
508	STABILIZED LEVEL FLIGHT	324	91.0	-109.50	3226.860
509	STABILIZED LEVEL FLIGHT	324	100.0	-102.00	3687.840
510	STABILIZED LEVEL FLIGHT	324	110.0	-105.30	3073.200
511	STABILIZED LEVEL FLIGHT	324	115.0	-109.00	3641.500
512	STABILIZED LEVEL FLIGHT	324	120.0	-107.60	4148.820

HELICOPTER CG. PROGRAM F03

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BASELINE STO BLADES

MODEL UH-1B 543 FLT. 135A
SHIP AF62-2023 DATE 9 JULY 65 G.W. 7500 LB ALT. 3000 FT HD
C.G. STA 125.4 OSC. NO. 1

CTR NO.	TEST CONDITION	RPM	VCAL KTS	MR YOKE BM MEAN	STA 6.0 CSC
495	STABILIZED LEVEL FLIGHT	309	23.0	-41328.000	27071.999
496	STABILIZED LEVEL FLIGHT	309	43.0	-41327.999	16920.000
497	STABILIZED LEVEL FLIGHT	309	59.0	-44712.000	13536.000
498	STABILIZED LEVEL FLIGHT	309	80.0	-48096.000	10151.999
499	STABILIZED LEVEL FLIGHT	309	91.0	-39636.000	15228.000
500	STABILIZED LEVEL FLIGHT	309	100.0	-44712.000	13536.000
501	STABILIZED LEVEL FLIGHT	309	110.0	-36252.000	21995.999
502	STABILIZED LEVEL FLIGHT	309	115.0	-48096.000	20304.000
503	STABILIZED LEVEL FLIGHT	309	120.0	-43020.000	35532.000
504	STABILIZED LEVEL FLIGHT	324	23.0	-68400.000	20304.001
505	STABILIZED LEVEL FLIGHT	324	43.0	-59940.000	15228.000
506	STABILIZED LEVEL FLIGHT	324	59.0	-71783.999	13536.000
507	STABILIZED LEVEL FLIGHT	324	80.0	-53172.000	15227.999
508	STABILIZED LEVEL FLIGHT	324	91.0	-56556.000	11844.000
509	STABILIZED LEVEL FLIGHT	324	100.0	-44712.000	20304.001
510	STABILIZED LEVEL FLIGHT	324	110.0	-73476.000	15228.000
511	STABILIZED LEVEL FLIGHT	324	115.0	-61632.000	16920.000
512	STABILIZED LEVEL FLIGHT	324	120.0	-59940.000	25380.000

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BASELINE STO BLADES

MODEL UH-1B 543 FLT. 135A G.W. 7500 LB ALT. 3000 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 125.4 OSC. NO. 1

CTR NO.	TEST CONDITION	RPM	VCAL KTS	MR BLD CHD STA 140 MEAN	OSC
495	STABILIZED LEVEL FLIGHT	209	23.0	-3740.000	51425.000
496	STABILIZED LEVEL FLIGHT	309	43.0	-5610.0C1	34595.000
497	STABILIZED LEVEL FLIGHT	309	59.0	-4908.751	25011.250
498	STABILIZED LEVEL FLIGHT	309	80.0	-1402.500	20570.000
499	STABILIZED LEVEL FLIGHT	309	91.0	1402.499	25712.500
500	STABILIZED LEVEL FLIGHT	309	100.0	935.000	26180.000
501	STABILIZED LEVEL FLIGHT	309	110.0	1402.500	24777.500
502	STABILIZED LEVEL FLIGHT	309	115.0	233.750	23608.750
503	STABILIZED LEVEL FLIGHT	309	120.0	467.500	34595.000
504	STABILIZED LEVEL FLIGHT	324	23.0	-6778.750	32491.250
505	STABILIZED LEVEL FLIGHT	324	43.0	-8181.250	24543.750
506	STABILIZED LEVEL FLIGHT	324	59.0	-7947.500	18232.500
507	STABILIZED LEVEL FLIGHT	324	80.0	-5376.251	20803.750
508	STABILIZED LEVEL FLIGHT	324	91.0	-1402.500	20570.000
509	STABILIZED LEVEL FLIGHT	324	100.0	2103.750	24076.250
510	STABILIZED LEVEL FLIGHT	324	110.0	-701.251	17063.750
511	STABILIZED LEVEL FLIGHT	324	115.0	-233.750	21738.749
512	STABILIZED LEVEL FLIGHT	324	120.0	-233.750	22673.750

BASELINE STO BLADES

MODEL UH-1B 543 FLT. 135A G.W. 7500 LB ALT. 3000 FT HC
SHIP AF52-2023 DATE 9 JULY 65 C.G. STA 125-4 CSC. NO. 1

CTR NO.	TEST CONDITION	RPM	X TS	Y CAL	MR BLD CHD STA 60 MEAN	USC
495	STABILIZED LEVEL FLIGHT	309	23.0	48640.900	72645.500	
496	STABILIZED LEVEL FLIGHT	309	43.0	46745.800	54326.201	
497	STABILIZED LEVEL FLIGHT	309	59.0	49904.301	43587.300	
498	STABILIZED LEVEL FLIGHT	309	80.0	53062.801	42955.600	
499	STABILIZED LEVEL FLIGHT	309	91.0	59379.799	55569.600	
500	STABILIZED LEVEL FLIGHT	309	100.0	61906.601	54326.201	
501	STABILIZED LEVEL FLIGHT	309	110.0	60643.200	56853.000	
502	STABILIZED LEVEL FLIGHT	309	115.0	65065.101	51167.700	
503	STABILIZED LEVEL FLIGHT	309	120.0	65696.801	68223.598	
504	STABILIZED LEVEL FLIGHT	324	23.0	53694.501	54957.900	
505	STABILIZED LEVEL FLIGHT	324	43.0	49904.301	42323.901	
506	STABILIZED LEVEL FLIGHT	324	59.0	53694.501	32216.699	
507	STABILIZED LEVEL FLIGHT	324	80.0	52431.103	43587.300	
508	STABILIZED LEVEL FLIGHT	324	91.0	58116.400	39165.400	
509	STABILIZED LEVEL FLIGHT	324	100.0	61906.601	53062.798	
510	STABILIZED LEVEL FLIGHT	324	110.0	65065.102	38533.701	
511	STABILIZED LEVEL FLIGHT	324	115.0	64433.400	49272.600	
512	STABILIZED LEVEL FLIGHT	324	120.0	68855.300	51167.700	

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 135A
SHIP AF62-2023 DATE 3 JULY 65

C.W. 7500 LB C.G. STA 125.4 ALT. 3000 FT HD
OSC. NO. 1

CIR NO.	TEST CONDITION	VCAL KTS	RPM	MR YOKE CHD STA 6.0 MEAN OSC
495	STABILIZED LEVEL FLIGHT	309	23.0	41710.215 66283.675
496	STABILIZED LEVEL FLIGHT	309	43.0	38476.865 54643.615
497	STABILIZED LEVEL FLIGHT	3C9	59.0	39123.536 44296.895
498	STABILIZED LEVEL FLIGHT	309	80.0	47206.910 57553.630
499	STABILIZED LEVEL FLIGHT	309	91.0	56906.959 71780.369
500	STABILIZED LEVEL FLIGHT	309	100.0	63696.997 71457.035
501	STABILIZED LEVEL FLIGHT	309	110.0	69840.360 82773.759
502	STABILIZED LEVEL FLIGHT	309	115.0	70487.031 76307.059
503	STABILIZED LEVEL FLIGHT	309	120.0	77277.065 111550.575
504	STABILIZED LEVEL FLIGHT	324	23.0	42033.551 64667.000
505	STABILIZED LEVEL FLIGHT	324	43.0	35890.185 44943.564
506	STABILIZED LEVEL FLIGHT	324	59.0	39123.535 37830.194
507	STABILIZED LEVEL FLIGHT	324	80.0	44943.566 53350.276
508	STABILIZED LEVEL FLIGHT	324	91.0	50116.926 57876.964
509	STABILIZED LEVEL FLIGHT	324	100.0	55290.285 70810.363
510	STABILIZED LEVEL FLIGHT	324	110.0	60463.645 57876.963
511	STABILIZED LEVEL FLIGHT	324	115.0	66607.010 68547.020
512	STABILIZED LEVEL FLIGHT	324	120.0	77277.065 78570.404

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SASELINE STD BLADES

MODEL UH-1B S43 FLT. 135A G.W. 7500 LB ALT. 3000 FT HC
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 125.4 OSC. NO. 1

CTR NO.	TEST CONDITION	RPM	KTS	VCAL	MR FLAPPIN	OSC
495	STABILIZED LEVEL FLIGHT	309	23.0	0.000		36.360
496	STABILIZED LEVEL FLIGHT	309	43.0	-0.000		44.844
497	STABILIZED LEVEL FLIGHT	309	59.0	0.606		43.026
498	STABILIZED LEVEL FLIGHT	309	80.0	-0.606		41.814
499	STABILIZED LEVEL FLIGHT	309	91.0	-2.424		38.784
500	STABILIZED LEVEL FLIGHT	309	100.0	0.000		35.148
501	STABILIZED LEVEL FLIGHT	309	110.0	0.000		32.724
502	STABILIZED LEVEL FLIGHT	309	115.0	-0.606		33.330
503	STABILIZED LEVEL FLIGHT	309	120.0	0.000		35.148
504	STABILIZED LEVEL FLIGHT	324	23.0	0.606		35.754
505	STABILIZED LEVEL FLIGHT	324	43.0	-0.000		44.844
506	STABILIZED LEVEL FLIGHT	324	59.0	-1.212		42.420
507	STABILIZED LEVEL FLIGHT	324	80.0	-1.212		43.632
508	STABILIZED LEVEL FLIGHT	324	91.0	-0.606		36.966
509	STABILIZED LEVEL FLIGHT	324	100.0	0.000		36.360
510	STABILIZED LEVEL FLIGHT	324	110.0	-0.606		30.906
511	STABILIZED LEVEL FLIGHT	324	115.0	-0.606		30.906
512	STABILIZED LEVEL FLIGHT	324	120.0	-2.424		31.512

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BASELINE STD BLADES

MODEL UH-1D 543 FLT. 135A
SHIP AF62-2023 DATE 9 JULY 65

G.W. 7500 LB C.G. STA 125.4 ALT. 3000 FT HD
OSC. NO. 1

CTR NO.	TEST CONDITION	PILOT VERT ACCEL		
		VCAL KTS	MEAN	OSC
495	STABILIZED LEVEL FLIGHT	309	23.0	0.994
496	STABILIZED LEVEL FLIGHT	309	43.0	0.982
497	STABILIZED LEVEL FLIGHT	309	59.0	0.976
498	STABILIZED LEVEL FLIGHT	309	80.0	0.963
499	STABILIZED LEVEL FLIGHT	309	91.0	1.031
500	STABILIZED LEVEL FLIGHT	309	100.0	1.000
501	STABILIZED LEVEL FLIGHT	309	110.0	1.012
502	STABILIZED LEVEL FLIGHT	309	115.0	0.915
503	STABILIZED LEVEL FLIGHT	309	120.0	1.006
504	STABILIZED LEVEL FLIGHT	324	23.0	0.988
505	STABILIZED LEVEL FLIGHT	324	43.0	1.030
506	STABILIZED LEVEL FLIGHT	324	59.0	0.909
507	STABILIZED LEVEL FLIGHT	324	80.0	1.073
508	STABILIZED LEVEL FLIGHT	324	91.0	1.012
509	STABILIZED LEVEL FLIGHT	324	100.0	1.116
510	STABILIZED LEVEL FLIGHT	324	110.0	0.921
511	STABILIZED LEVEL FLIGHT	324	115.0	1.018
512	STABILIZED LEVEL FLIGHT	324	120.0	1.012

BASELINE STD BLADES

MODEL UH-1B S43 FLT. 135A G.W. 7500 LB ALT. 3000 FT HO
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 125.4 OSC. NO. 1

CTR NO.	TEST CONCITION	RPM	KTS	VCAL MEAN	CO-PILOT VERT ACCEL
495	STABILIZED LEVEL FLIGHT	309	23.0	0.988	0.132
496	STABILIZED LEVEL FLIGHT	309	43.0	0.970	0.090
497	STABILIZED LEVEL FLIGHT	309	59.0	0.964	0.072
498	STABILIZED LEVEL FLIGHT	309	80.0	1.000	0.120
499	STABILIZED LEVEL FLIGHT	309	91.0	1.000	0.180
500	STABILIZED LEVEL FLIGHT	309	100.0	0.984	0.192
501	STABILIZED LEVEL FLIGHT	309	110.0	1.042	0.246
502	STABILIZED LEVEL FLIGHT	309	115.0	0.940	0.288
503	STABILIZED LEVEL FLIGHT	309	120.0	0.982	0.354
504	STABILIZED LEVEL FLIGHT	324	23.0	0.976	0.132
505	STABILIZED LEVEL FLIGHT	324	43.0	1.012	0.096
506	STABILIZED LEVEL FLIGHT	324	59.0	0.928	0.084
507	STABILIZED LEVEL FLIGHT	324	80.0	1.066	0.126
508	STABILIZED LEVEL FLIGHT	324	91.0	1.024	0.132
509	STABILIZED LEVEL FLIGHT	324	100.0	1.060	0.216
510	STABILIZED LEVEL FLIGHT	324	110.0	0.952	0.240
511	STABILIZED LEVEL FLIGHT	324	115.0	1.024	0.276
512	STABILIZED LEVEL FLIGHT	324	120.0	0.982	0.330

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BASELINE STD BLADES

MODEL UH-1B 543
SHIP AF62-2023 FLT. 135A
DATE 9 JULY 65

CTR NO. TEST CONDITION

CTR NO.	TEST CONDITION	RPM	VCAL KTS	C.G. VERT ACCEL MEAN	OSC
495	STABILIZED LEVEL FLIGHT	309	23.0	1.060	0.250
496	STABILIZED LEVEL FLIGHT	309	43.0	1.018	0.137
497	STABILIZED LEVEL FLIGHT	309	59.0	0.994	0.101
498	STABILIZED LEVEL FLIGHT	309	80.0	1.000	0.107
499	STABILIZED LEVEL FLIGHT	309	91.0	1.042	0.113
500	STABILIZED LEVEL FLIGHT	309	100.0	0.994	0.125
501	STABILIZED LEVEL FLIGHT	309	110.0	1.048	0.143
502	STABILIZED LEVEL FLIGHT	309	115.0	0.923	0.173
503	STABILIZED LEVEL FLIGHT	309	120.0	0.988	0.179
504	STABILIZED LEVEL FLIGHT	324	23.0	0.958	0.161
505	STABILIZED LEVEL FLIGHT	324	43.0	1.054	0.149
506	STABILIZED LEVEL FLIGHT	324	59.0	0.958	0.089
507	STABILIZED LEVEL FLIGHT	324	80.0	1.042	0.125
508	STABILIZED LEVEL FLIGHT	324	91.0	0.988	0.131
509	STABILIZED LEVEL FLIGHT	324	100.0	1.083	0.167
510	STABILIZED LEVEL FLIGHT	324	110.0	0.893	0.119
511	STABILIZED LEVEL FLIGHT	324	115.0	0.994	0.149
512	STABILIZED LEVEL FLIGHT	324	120.0	0.970	0.137

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HASELINE STD BLADES

MODEL UH-1B S43 FLT. 135A
SHIP AF62-2023 DATE 9 JULY 65C.O.W. 7500 LB C.G. STA 125.4 ALT. 3000 FT HU
DSC. NC. 1

CTR NO.	TEST CONDITION	RPM	XTS	VCAF	R/H CYC BOCST TUBE MEAN	DSC
495	STABILIZED LEVEL FLIGHT	309	23.0	108.405	277.035	
496	STABILIZED LEVEL FLIGHT	309	43.0	96.360	216.810	
497	STABILIZED LEVEL FLIGHT	309	59.0	108.405	180.675	
498	STABILIZED LEVEL FLIGHT	309	80.0	36.135	156.585	
499	STABILIZED LEVEL FLIGHT	309	91.0	132.495	204.765	
500	STABILIZED LEVEL FLIGHT	309	100.0	120.450	289.060	
501	STABILIZED LEVEL FLIGHT	309	110.0	84.315	277.035	
502	STABILIZED LEVEL FLIGHT	309	115.0	120.450	313.170	
503	STABILIZED LEVEL FLIGHT	309	120.0	144.540	505.890	
504	STABILIZED LEVEL FLIGHT	324	23.0	144.540	264.990	
505	STABILIZED LEVEL FLIGHT	324	43.0	84.315	156.585	
506	STABILIZED LEVEL FLIGHT	324	59.0	96.360	144.540	
507	STABILIZED LEVEL FLIGHT	324	80.0	60.225	156.585	
508	STABILIZED LEVEL FLIGHT	324	91.0	108.405	180.675	
509	STABILIZED LEVEL FLIGHT	324	100.0	144.540	264.990	
510	STABILIZED LEVEL FLIGHT	324	110.0	96.360	264.990	
511	STABILIZED LEVEL FLIGHT	324	115.0	120.450	337.260	
512	STABILIZED LEVEL FLIGHT	324	120.0	108.405	349.305	

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 135A

SHIP AF62-2023 DATE 9 JULY 65

G.W. 7500 LB C.G. STA 125.4 ALT. 3000 FT HD
OSC. NO. 1

CTR NO.	TEST CONDITION	VCAL KTS	L/H CYC BOOST TUBE MEAN OSC
495	STABILIZED LEVEL FLIGHT	309 23.0	-56.100 190.740
496	STABILIZED LEVEL FLIGHT	309 43.0	-22.440 157.080
497	STABILIZED LEVEL FLIGHT	309 59.0	-11.220 145.860
498	STABILIZED LEVEL FLIGHT	309 80.0	-11.2. 200 224.400
499	STABILIZED LEVEL FLIGHT	309 91.0	-145.-60 168.300
500	STABILIZED LEVEL FLIGHT	309 100.0	-89.760 157.080
501	STABILIZED LEVEL FLIGHT	309 110.0	-145.-860 190.740
502	STABILIZED LEVEL FLIGHT	309 115.0	-168.300 213.180
503	STABILIZED LEVEL FLIGHT	309 120.0	-224.400 314.160
504	STABILIZED LEVEL FLIGHT	324 23.0	-11.220 235.620
505	STABILIZED LEVEL FLIGHT	324 43.0	44.-880 134.-640
506	STABILIZED LEVEL FLIGHT	324 59.0	33.-660 145.-860
507	STABILIZED LEVEL FLIGHT	324 80.0	-56.-100 168.-300
508	STABILIZED LEVEL FLIGHT	324 91.0	-67.-320 179.-520
509	STABILIZED LEVEL FLIGHT	324 100.0	-100.-980 168.-300
510	STABILIZED LEVEL FLIGHT	324 110.0	-112.-200 179.-520
511	STABILIZED LEVEL FLIGHT	324 115.0	-157.-080 201.-960
512	STABILIZED LEVEL FLIGHT	324 120.0	-179.-520 246.-840

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 135A
SHIP AF62-2023 DATE 9 JULY 65 G.W. 7500 LB ALT. 3000 FT HD
C.G. STA 125.4 DSC. NO. 1

CTR	TEST CONDITION	RPM	VCAL KTS	COLL BOOST TUBE MEAN	DSC
495	STABILIZED LEVEL FLIGHT	309	23.0	-87.400	104.880
496	STABILIZED LEVEL FLIGHT	309	-43.0	-52.440	78.660
497	STABILIZED LEVEL FLIGHT	309	-59.0	-43.700	78.660
498	STABILIZED LEVEL FLIGHT	309	80.0	-74.290	117.990
499	STABILIZED LEVEL FLIGHT	309	91.0	-56.810	144.210
500	STABILIZED LEVEL FLIGHT	309	100.0	-69.920	201.020
501	STABILIZED LEVEL FLIGHT	309	110.0	-52.440	227.240
502	STABILIZED LEVEL FLIGHT	309	115.0	-30.590	257.830
503	STABILIZED LEVEL FLIGHT	309	120.0	-30.590	310.270
504	STABILIZED LEVEL FLIGHT	324	23.0	-34.960	131.100
505	STABILIZED LEVEL FLIGHT	324	43.0	0.000	87.400
506	STABILIZED LEVEL FLIGHT	324	59.0	0.000	87.400
507	STABILIZED LEVEL FLIGHT	324	80.0	-76.660	174.800
508	STABILIZED LEVEL FLIGHT	324	91.0	-39.330	152.950
509	STABILIZED LEVEL FLIGHT	324	100.0	-26.220	209.760
510	STABILIZED LEVEL FLIGHT	324	110.0	-52.440	244.720
511	STABILIZED LEVEL FLIGHT	324	115.0	-39.330	266.570
512	STABILIZED LEVEL FLIGHT	324	120.0	-56.610	292.790

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BASELINE STD BLADES.

MODEL UH-1B 543 FLT. 1358 G.W. 7500 LB ALT. 3080 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CTR NO.	TEST CONDITION	RPH	VCAL KTS	MR BLD BM MEAN	STA 140 OSC
530	STABILIZED LEVEL FLIGHT	309	23.0	-1712.500	5087.500
531	STABILIZED LEVEL FLIGHT	309	43.0	-1300.000	5500.000
532	STABILIZED LEVEL FLIGHT	309	59.0	-1025.000	5775.000
533	STABILIZED LEVEL FLIGHT	309	80.0	-1575.000	6050.000
534	STABILIZED LEVEL FLIGHT	309	91.0	-612.500	7562.500
535	STABILIZED LEVEL FLIGHT	309	100.0	-1025.000	7150.000
536	STABILIZED LEVEL FLIGHT	309	110.0	-612.500	7562.500
537	STABILIZED LEVEL FLIGHT	309	115.0	-612.500	8662.500
538	STABILIZED LEVEL FLIGHT	309	120.0	-475.000	9625.000
539	STABILIZED LEVEL FLIGHT	324	23.0	-2400.000	4950.000
540	STABILIZED LEVEL FLIGHT	324	43.0	-1712.500	4537.500
541	STABILIZED LEVEL FLIGHT	324	59.0	-1437.500	4262.500
542	STABILIZED LEVEL FLIGHT	324	80.0	-1575.000	5225.000
543	STABILIZED LEVEL FLIGHT	324	91.0	-1987.500	5912.500
544	STABILIZED LEVEL FLIGHT	324	100.0	-1987.500	6737.500
545	STABILIZED LEVEL FLIGHT	324	110.0	-1850.000	6875.000
546	STABILIZED LEVEL FLIGHT	324	115.0	-1575.000	7150.000
547	STABILIZED LEVEL FLIGHT	324	120.0	-750.000	8250.000

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358 C.W. 7500 LB ALT. 3080 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CTR NO.	TEST CONDITION	RPM	KTS	VCAL	MR	BLD	BM	STA	84	CSC
530	STABILIZED LEVEL FLIGHT	309	23.0	2299.390	5023.030					
531	STABILIZED LEVEL FLIGHT	309	43.0	3489.055	6212.695					
532	STABILIZED LEVEL FLIGHT	309	59.0	3489.055	5419.585					
533	STABILIZED LEVEL FLIGHT	309	80.0	2563.760	6080.510					
534	STABILIZED LEVEL FLIGHT	309	91.0	4414.350	8459.840					
535	STABILIZED LEVEL FLIGHT	309	100.0	4810.905	7798.915					
536	STABILIZED LEVEL FLIGHT	309	110.0	6000.570	9252.950					
537	STABILIZED LEVEL FLIGHT	309	115.0	5075.275	9913.875					
538	STABILIZED LEVEL FLIGHT	309	120.0	8115.530	11896.650					
539	STABILIZED LEVEL FLIGHT	324	23.0	-212.125	5683.955					
540	STABILIZED LEVEL FLIGHT	324	43.0	845.355	5155.215					
541	STABILIZED LEVEL FLIGHT	324	59.0	580.985	4362.105					
542	STABILIZED LEVEL FLIGHT	324	80.0	580.985	5419.585					
543	STABILIZED LEVEL FLIGHT	324	91.0	1506.280	6080.510					
544	STABILIZED LEVEL FLIGHT	324	100.0	2431.575	6212.695					
545	STABILIZED LEVEL FLIGHT	324	110.0	3489.055	7005.805					
546	STABILIZED LEVEL FLIGHT	324	115.0	3621.240	7931.100					
547	STABILIZED LEVEL FLIGHT	324	120.0	5075.275	8592.025					

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 BASELINE STD BLADES

CTR NO.	TEST CONCITION	RPM	VCAL KTS	FR BLD 8M MEAN	STA 60 USC
530	STABILIZED LEVEL FLIGHT	309	23.0	691.074	7175.924
531	STABILIZED LEVEL FLIGHT	309	43.0	2817.275	8770.575
532	STABILIZED LEVEL FLIGHT	309	59.0	4146.150	7441.700
533	STABILIZED LEVEL FLIGHT	309	80.0	2019.950	6504.800
534	STABILIZED LEVEL FLIGHT	309	91.0	7069.674	11428.325
535	STABILIZED LEVEL FLIGHT	309	100.0	6538.124	10365.225
536	STABILIZED LEVEL FLIGHT	309	110.0	7866.999	13288.750
537	STABILIZED LEVEL FLIGHT	309	115.0	6538.124	14617.625
538	STABILIZED LEVEL FLIGHT	309	120.0	11653.625	17806.925
539	STABILIZED LEVEL FLIGHT	324	23.0	-5953.301	9504.800
540	STABILIZED LEVEL FLIGHT	324	43.0	-4624.425	6112.826
541	STABILIZED LEVEL FLIGHT	324	59.0	-3827.100	5847.050
542	STABILIZED LEVEL FLIGHT	324	80.0	-3029.775	7175.924
543	STABILIZED LEVEL FLIGHI	324	91.0	-1169.351	9036.349
544	STABILIZED LEVEL FLIGHT	324	100.0	691.074	8770.574
545	STABILIZED LEVEL FLIGHT	324	110.0	2817.274	9302.125
546	STABILIZED LEVEL FLIGHT	324	115.0	4146.149	11162.550
547	STABILIZED LEVEL FLIGHT	324	120.0	6212.349	12225.650

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BASELINE STD. BLADES

MODEL UH-1B S43 FLIT. 1356
SHIP AFS2-2023 DATE 9 JULY 65

C.O.W. 7500 LB C.G. STA 133.2 ALT. 3080 FT HD
OSC. NC. 1

CIR NO.	TEST CONDITION	VCAL RPM	KTS	MR BLD BM STA 35 MEAN	GSC
530	STABILIZED LEVEL FLIGHT	309	23.0	-5858.601	10199.200
531	STABILIZED LEVEL FLIGHT	309	43.0	-1222.600	12980.800
532	STABILIZED LEVEL FLIGHT	309	56.0	2949.800	11590.000
533	STABILIZED LEVEL FLIGHT	309	80.0	-1686.199	12517.200
534	STABILIZED LEVEL FLIGHT	309	91.0	5267.801	17616.800
535	STABILIZED LEVEL FLIGHT	309	100.0	4804.200	16226.000
536	STABILIZED LEVEL FLIGHT	309	110.0	8976.600	20398.400
537	STABILIZED LEVEL FLIGHT	309	115.0	3413.400	21325.599
538	STABILIZED LEVEL FLIGHT	309	120.0	15466.999	26688.799
539	STABILIZED LEVEL FLIGHT	324	23.0	-23011.801	9735.600
540	STABILIZED LEVEL FLIGHT	324	43.0	-15594.200	9735.600
541	STABILIZED LEVEL FLIGHT	324	59.0	-16057.801	9271.999
542	STABILIZED LEVEL FLIGHT	324	80.0	-14203.401	10199.200
543	STABILIZED LEVEL FLIGHT	324	91.0	-10031.001	11590.000
544	STABILIZED LEVEL FLIGHT	324	100.0	-5858.600	13908.000
545	STABILIZED LEVEL FLIGHT	324	110.0	-2149.800	16669.601
546	STABILIZED LEVEL FLIGHT	324	115.0	-1222.600	19471.199
547	STABILIZED LEVEL FLIGHT	324	120.0	20862.001	

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BASELINE STD BLADES

MODEL UH-1B S43 FLT. 135A
SHIP AF62-2023 DATE 9 JULY 65

G.W. 7500 LB C.G. STA 133.2 ALT. 3000 FT HD
USC. NO. 1

CTK NO.	TEST CONCITION	PPM KTS	VCAL KTS	MR PITCH LINK RED MEAN OSC
S30	STABILIZED LEVEL FLIGHT	309	23.0	99.605 389.365
S31	STABILIZED LEVEL FLIGHT	309	43.0	49.605 335.035
S32	STABILIZED LEVEL FLIGHT	309	59.0	45.275 280.705
S33	STABILIZED LEVEL FLIGHT	309	80.0	45.275 280.705
S34	STABILIZED LEVEL FLIGHT	309	91.0	162.990 362.200
S35	STABILIZED LEVEL FLIGHT	309	100.0	153.935 389.365
S36	STABILIZED LEVEL FLIGHT	309	110.0	208.265 443.695
S37	STABILIZED LEVEL FLIGHT	309	115.0	108.660 579.520
S38	STABILIZED LEVEL FLIGHT	309	120.0	117.715 679.125
S39	STABILIZED LEVEL FLIGHT	324	23.0	-9.055 407.475
S40	STABILIZED LEVEL FLIGHT	324	43.0	-9.055 316.925
S41	STABILIZED LEVEL FLIGHT	324	59.0	18.110 271.650
S42	STABILIZED LEVEL FLIGHT	324	80.0	36.220 307.870
S43	STABILIZED LEVEL FLIGHT	324	91.0	63.385 335.035
S44	STABILIZED LEVEL FLIGHT	324	100.0	91.495 407.475
S45	STABILIZED LEVEL FLIGHT	324	110.0	135.825 425.585
S46	STABILIZED LEVEL FLIGHT	324	115.0	144.880 434.640
S47	STABILIZED LEVEL FLIGHT	324	120.0	126.770 543.300

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WASLINE STD BLADES

MODEL UH-1B S43 FLT. 1358 ALT. 3080 FT HN
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CTR	TEST CONDITION	RPM	VST	MEAN	OSC
530	STABILIZED LEVEL FLIGHT	309	23.0	2502.480	33.0.520
531	STABILIZED LEVEL FLIGHT	309	43.0	4456.140	3534.180
532	STABILIZED LEVEL FLIGHT	309	59.0	4456.140	2919.540
533	STABILIZED LEVEL FLIGHT	309	80.0	4148.820	2304.900
534	STABILIZED LEVEL FLIGHT	309	91.0	3687.840	3380.520
535	STABILIZED LEVEL FLIGHT	309	100.0	3687.840	3330.520
536	STABILIZED LEVEL FLIGHT	309	110.0	3380.520	3687.840
537	STABILIZED LEVEL FLIGHT	309	115.0	2919.540	4148.820
538	STABILIZED LEVEL FLIGHT	309	120.0	2765.880	4917.120
539	STABILIZED LEVEL FLIGHT	324	23.0	4609.800	3687.840
540	STABILIZED LEVEL FLIGHT	324	43.0	4609.800	2765.880
541	STABILIZED LEVEL FLIGHT	324	59.0	4456.140	2612.220
542	STABILIZED LEVEL FLIGHT	324	80.0	4302.480	2151.240
543	STABILIZED LEVEL FLIGHT	324	91.0	2841.500	2612.220
544	STABILIZED LEVEL FLIGHT	324	100.0	4456.140	2612.220
545	STABILIZED LEVEL FLIGHT	324	110.0	4456.140	2919.540
546	STABILIZED LEVEL FLIGHT	324	115.0	3941.500	3534.180
547	STABILIZED LEVEL FLIGHT	324	120.0	3687.840	3380.520

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RASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358
SHIP AF62-2023 DATE 9 JULY 65

G.W. 7500 LB C.G. STA 133.02 OSC. NO. 1

CTA NO.	TEST CONDITION	RPM	VCAL KTS	MR YOKE BM STA 6-0 MEAN	DSC
530	STABILIZED LEVEL FLIGHT	309	23.0	-49086.410	18158.030
531	STABILIZED LEVEL FLIGHT	309	43.0	-37531.300	19808.760
532	STABILIZED LEVEL FLIGHT	309	59.0	-39182.031	11555.110
533	STABILIZED LEVEL FLIGHT	309	80.0	-47435.681	13205.841
534	STABILIZED LEVEL FLIGHT	309	91.0	-37531.300	13205.841
535	STABILIZED LEVEL FLIGHT	309	100.0	-44134.220	13205.840
536	STABILIZED LEVEL FLIGHT	309	110.0	-39182.030	18158.030
537	STABILIZED LEVEL FLIGHT	309	115.0	-55689.331	18158.030
538	STABILIZED LEVEL FLIGHT	309	120.0	-34229.839	23110.220
539	STABILIZED LEVEL FLIGHT	324	23.0	-68895.170	24062.410
540	STABILIZED LEVEL FLIGHT	324	43.0	-65593.706	18158.030
541	STABILIZED LEVEL FLIGHT	324	59.0	-72196.628	11555.109
542	STABILIZED LEVEL FLIGHT	324	80.0	-72196.629	8253.649
543	STABILIZED LEVEL FLIGHT	324	91.0	-70545.899	9904.379
544	STABILIZED LEVEL FLIGHT	324	100.0	-62292.250	18158.030
545	STABILIZED LEVEL FLIGHT	324	110.0	-62292.250	18158.030
546	STABILIZED LEVEL FLIGHT	324	115.0	-62292.250	18158.030
547	STABILIZED LEVEL FLIGHT	324	120.0	-58990.791	18158.030

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358
SHIP AF62-2023 DATE 9 JULY 65G.W. 7500 LB ALT. 3080 FT HD
C.G. STA 133.2 CSC. NG. 1

CTR NO.	TEST CONDITION	RPM	VCAL KTS	MR BLD CND STA 140 MEAN OSC
530	STABILIZED LEVEL FLIGHT	309	23.0	-8415.000
531	STABILIZED LEVEL FLIGHT	309	43.0	-5610.000
532	STABILIZED LEVEL FLIGHT	309	59.0	-7713.750
533	STABILIZED LEVEL FLIGHT	309	80.0	-5843.750
534	STABILIZED LEVEL FLIGHT	309	91.0	-0.000
535	STABILIZED LEVEL FLIGHT	309	100.0	-467.500
536	STABILIZED LEVEL FLIGHT	309	110.0	3272.500
537	STABILIZED LEVFL FLIGHT	309	115.0	2103.750
538	STABILIZED LEVEL FLIGHT	309	120.0	-232.750
539	STABILIZED LEVEL FLIGHT	324	23.0	-9116.250
540	STABILIZED LEVEL FLIGHT	324	43.0	-4675.000
541	STABILIZED LEVEL FLIGHT	324	59.0	-4441.250
542	STABILIZED LEVEL FLIGHT	324	80.0	-4441.250
543	STABILIZED LEVEL FLIGHT	324	91.0	-2337.500
544	STABILIZED LEVEL FLIGHT	324	100.0	-0.000
545	STABILIZED LEVEL FLIGHT	324	110.0	-1168.750
546	STABILIZED LEVEL FLIGHT	324	115.0	2571.250
547	STABILIZED LEVEL FLIGHT	324	120.0	2103.750

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 BASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358 C.W. 7500 LB ALT. 3030 FT HD
 SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CTR NO.	TEST CONDITION	R.P.M	V.CAL	MR	BLD	CHO	STA	60
		KTS	MEAN	MEAN	MEAN	MEAN	MEAN	CSC
530	STABILIZED LEVEL FLIGHT	309	23.0	46268.500	53771.500			
531	STABILIZED LEVEL FLIGHT	309	43.0	46893.750	51895.749			
532	STABILIZED LEVEL FLIGHT	306	59.0	43767.500	41266.500			
533	STABILIZED LEVEL FLIGHT	309	80.0	48144.249	31887.749			
534	STABILIZED LEVEL FLIGHT	309	91.0	46769.500	53771.499			
535	STABILIZED LEVEL FLIGHT	309	100.0	58148.250	46893.750			
536	STABILIZED LEVEL FLIGHT	309	110.0	61899.750	46893.750			
537	STABILIZED LEVEL FLIGHT	309	115.0	60023.999	51270.500			
538	STABILIZED LEVEL FLIGHT	309	120.0	58773.500	62525.000			
539	STABILIZED LEVEL FLIGHT	324	23.0	50645.250	48144.249			
540	STABILIZED LEVEL FLIGHT	324	43.0	53771.499	41266.500			
541	STABILIZED LEVEL FLIGHT	324	59.0	58773.500	31262.500			
542	STABILIZED LEVEL FLIGHT	324	80.0	58773.500	27511.000			
543	STABILIZED LEVEL FLIGHT	324	91.0	42517.000	20008.000			
544	STABILIZED LEVEL FLIGHT	324	100.0	61274.499	32513.000			
545	STABILIZED LEVEL FLIGHT	324	110.0	63775.500	33763.499			
546	STABILIZED LEVEL FLIGHT	324	115.0	67527.000	37515.000			
547	STABILIZED LEVEL FLIGHT	324	120.0	70027.999	42517.000			

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BASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358
SHIP AF62-2023 DATE 9 JULY 65

C.W. 7500 LB ALT. 3050 FT HD
C.G. ST. 133.02 CSC. ND. 1

CTR NO.	TEST CONDITION	RPM	KTS	VCAL	MR YOKE CHG STA 6.0	MEAN	OSC
530	STABILIZED LEVEL FLIGHT	309	23.0	43057.740	59367.490		
531	STABILIZED LEVEL FLIGHT	309	43.0	43383.936	56431.735		
532	STABILIZED LEVEL FLIGHT	309	59.0	37838.622	49581.640		
533	STABILIZED LEVEL FLIGHT	309	80.0	38491.010	43057.740		
534	STABILIZED LEVEL FLIGHT	309	91.0	50886.421	62629.439		
535	STABILIZED LEVEL FLIGHT	309	100.0	56431.736	63608.025		
536	STABILIZED LEVEL FLIGHT	309	110.0	64260.415	69479.534		
537	STABILIZED LEVEL FLIGHT	309	115.0	70458.120	75677.239		
538	STABILIZED LEVEL FLIGHT	309	120.0	69005.730	91334.599		
539	STABILIZED LEVEL FLIGHT	324	23.0	37838.622	53495.980		
540	STABILIZED LEVEL FLIGHT	324	43.0	41426.766	46645.895		
541	STABILIZED LEVEL FLIGHT	324	59.0	43710.129	37838.620		
542	STABILIZED LEVEL FLIGHT	324	80.0	45341.105	36860.034		
543	STABILIZED LEVEL FLIGHT	324	91.0	47950.665	45993.495		
544	STABILIZED LEVEL FLIGHT	324	100.0	53495.981	50686.420		
545	STABILIZED LEVEL FLIGHT	324	110.0	56757.931	52191.200		
546	STABILIZED LEVEL FLIGHT	324	115.0	64912.805	64912.805		
547	STABILIZED LEVEL FLIGHT	324	120.0	68174.753	66869.974		

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BASELINE STD BLADES

MODEL UH-1b 543 FLT. 1358
SHIP AF62-2023 DATE 9 JULY 65

C-W. 7500 LB C.G. STA 133.2 CSC. NO. 1
ALT. 3080 FT HD

CTR NO.	TEST CONDITION	VCAL	MR FLAPPING	OSC
		KTS	MEAN	
530	STABILIZED LEVEL FLIGHT	309	23.0	-1.212
531	STABILIZED LEVEL FLIGHT	309	43.0	-1.818
532	STABILIZED LEVEL FLIGHT	309	59.0	-1.818
533	STABILIZED LEVEL FLIGHT	309	80.0	-1.818
534	STABILIZED LEVEL FLIGHT	309	91.0	-2.424
535	STABILIZED LEVEL FLIGHT	309	100.0	-2.424
536	STABILIZED LEVEL FLIGHT	309	110.0	-4.242
537	STABILIZED LEVEL FLIGHT	309	115.0	-3.030
538	STABILIZED LEVEL FLIGHT	309	120.0	-1.818
539	STABILIZED LEVEL FLIGHT	324	23.0	-1.818
540	STABILIZED LEVEL FLIGHT	324	43.0	-1.818
541	STABILIZED LEVEL FLIGHT	324	59.0	-1.818
542	STABILIZED LEVEL FLIGHT	324	60.0	-1.212
543	STABILIZED LEVEL FLIGHT	324	91.0	-3.636
544	STABILIZED LEVEL FLIGHT	324	100.0	-0.606
545	STABILIZED LEVEL FLIGHT	324	110.0	-2.424
546	STABILIZED LEVEL FLIGHT	324	115.0	-0.606
547	STABILIZED LEVEL FLIGHT	324	120.0	-3.030

FASELINNE STD BLADES

MODEL UH-1B. 543 FLI. 1358 C.W. 7500 LB ALT. 3080 FT HC
 SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 DISC. NO. 1

CTK NO.	TEST CONDITION	VCAL			PILOT VERT ACCEL	
		RPM	KTS	MEAN	DSC	
530	STABILIZED LEVEL FLIGHT	309	23.0	0.976	C.123	
531	STABILIZED LEVEL FLIGHT	309	43.0	1.024	0.121	
532	STABILIZED LEVEL FLIGHT	309	59.0	1.030	0.127	
533	STABILIZED LEVEL FLIGHT	309	80.0	0.976	C.133	
534	STABILIZED LEVEL FLIGHT	309	91.0	1.024	0.230	
535	STABILIZED LEVEL FLIGHT	309	100.0	0.982	0.212	
536	STABILIZED LEVEL FLIGHT	309	110.0	0.928	C.266	
537	STABILIZED LEVEL FLIGHT	309	115.0	0.903	C.242	
538	STABILIZED LEVEL FLIGHT	309	120.0	0.976	0.327	
539	STABILIZED LEVEL FLIGHT	324	23.0	0.939	0.085	
540	STABILIZED LEVEL FLIGHT	324	43.0	0.982	0.091	
541	STABILIZED LEVEL FLIGHT	324	59.0	0.958	0.091	
542	STABILIZED LEVEL FLIGHT	324	80.0	0.946	0.115	
543	STABILIZED LEVEL FLIGHT	324	91.0	0.939	0.133	
544	STABILIZED LEVEL FLIGHT	324	100.0	0.994	0.175	
545	STABILIZED LEVEL FLIGHT	324	110.0	0.976	0.230	
546	STABILIZED LEVEL FLIGHT	324	115.0	1.018	0.272	
547	STABILIZED LEVEL FLIGHT	324	120.0	1.006	0.260	

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BASELINE STD BLADES

MODEL UH-1B 543 FLIT. 1358 G.W. 7500 LB ALT. 3080 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 DSC. NO. 1

CTR NO.	TEST CONDITION	VCAL RPM	KTS MEAN	CO-PILOT OSC	VERT ACCEL OSC
530	STABILIZED LEVEL FLIGHT	309	23.0	0.970	0.162
531	STABILIZED LEVEL FLIGHT	309	43.0	1.042	0.114
532	STABILIZED LEVEL FLIGHT	309	59.0	1.084	0.144
533	STABILIZED LEVEL FLIGHT	309	80.0	1.012	0.168
534	STABILIZED LEVEL FLIGHT	309	91.0	1.066	0.234
535	STABILIZED LEVEL FLIGHT	309	100.0	1.024	0.228
536	STABILIZED LEVEL FLIGHT	309	110.0	1.066	0.330
537	STABILIZED LEVEL FLIGHT	309	115.0	0.970	0.318
538	STABILIZED LEVEL FLIGHT	309	120.0	1.024	0.432
539	STABILIZED LEVEL FLIGHT	324	23.0	1.036	0.228
540	STABILIZED LEVEL FLIGHT	324	43.0	1.042	0.150
541	STABILIZED LEVEL FLIGHT	324	59.0	0.982	0.114
542	STABILIZED LEVEL FLIGHT	324	80.0	0.994	0.126
543	STABILIZED LEVEL FLIGHT	324	91.0	1.000	0.156
544	STABILIZED LEVEL FLIGHT	324	100.0	0.994	0.246
545	STABILIZED LEVEL FLIGHT	324	110.0	1.024	0.252
546	STABILIZED LEVEL FLIGHT	324	115.0	1.012	0.276
547	STABILIZED LEVEL FLIGHT	324	120.0	1.030	0.342

BASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358 C.W. 7500 LBS ALT. 3080 FT MO
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CTR NO.	TEST CONDITION	RPM	VCAL KTS	C.G. VERT ACCEL	
				MEAN	OSC.
530	STABILIZED LEVEL FLIGHT	309	23.0	0.964	0.108
531	STABILIZED LEVEL FLIGHT	309	43.0	1.018	0.102
532	STABILIZED LEVEL FLIGHT	309	59.0	1.066	0.090
533	STABILIZED LEVEL FLIGHT	309	80.0	1.012	0.096
534	STABILIZED LEVEL FLIGHT	309	91.0	1.066	0.090
535	STABILIZED LEVEL FLIGHT	309	100.0	1.006	0.102
536	STABILIZED LEVEL FLIGHT	309	110.0	1.020	0.138
537	STABILIZED LEVEL FLIGHT	309	115.0	0.958	0.102
538	STABILIZED LEVEL FLIGHT	309	120.0	1.072	0.120
539	STABILIZED LEVEL FLIGHT	324	23.0	0.922	0.210
540	STABILIZED LEVEL FLIGHT	324	43.0	1.006	0.162
541	STABILIZED LEVEL FLIGHT	324	59.0	0.970	0.102
542	STABILIZED LEVEL FLIGHT	324	80.0	0.970	0.066
543	STABILIZED LEVEL FLIGHT	324	91.0	0.958	0.090
544	STABILIZED LEVEL FLIGHT	324	100.0	1.006	C. 114
545	STABILIZED LEVEL FLIGHT	324	110.0	0.988	0.108
546	STABILIZED LEVEL FLIGHT	324	115.0	0.982	0.114
547	STABILIZED LEVEL FLIGHT	324	120.0	1.000	C. 120

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 BASELINE STD BLADES

MODEL WH-1B 543 FLT. 135A G.H. 7500 LB ALT. 3000 FT HD
 SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CIR NO.	TEST CONDITION	RPM	KTS	VCAL MEAN	R/H CYC BOOST TUBE DSC
530	STABILIZED LEVEL FLIGHT	309	23.0	119.350	262.570
531	STABILIZED LEVEL FLIGHT	309	43.0	143.220	238.700
532	STABILIZED LEVEL FLIGHT	309	59.0	83.545	179.025
533	STABILIZED LEVEL FLIGHT	309	80.0	83.545	131.285
534	STABILIZED LEVEL FLIGHT	309	91.0	179.025	226.765
535	STABILIZED LEVEL FLIGHT	309	100.0	167.090	214.830
536	STABILIZED LEVEL FLIGHT	309	110.0	155.155	274.505
537	STABILIZED LEVEL FLIGHT	309	115.0	131.285	298.375
538	STABILIZED LEVEL FLIGHT	309	120.0	179.025	393.855
539	STABILIZED LEVEL FLIGHT	324	23.0	131.285	322.245
540	STABILIZED LEVEL FLIGHT	324	43.0	71.610	190.960
541	STABILIZED LEVEL FLIGHT	324	59.0	83.545	131.285
542	STABILIZED LEVEL FLIGHT	324	80.0	59.675	131.285
543	STABILIZED LEVEL FLIGHT	324	91.0	107.415	155.155
544	STABILIZED LEVEL FLIGHT	324	100.0	107.415	202.895
545	STABILIZED LEVEL FLIGHT	324	110.0	143.220	238.700
546	STABILIZED LEVEL FLIGHT	324	115.0	143.220	286.440
547	STABILIZED LEVEL FLIGHT	324	120.0	119.350	334.180

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EASELINE STD BLADES

MODEL UH-1E 543 FLT. 1358 G.W. 7500 LB ALT. 3060 FT HD
SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1.

CTR	TEST CONDITION	VCAL	L/H CYC BOOST TURE	OSC
NO.		KTS	MEAN	OSC
530	STABILIZED LEVEL FLIGHT	309	23.0	-56.100 190.740
531	STABILIZED LEVEL FLIGHT	309	43.0	-67.320 157.080
532	STABILIZED LEVEL FLIGHT	309	-59.0	-78.540 168.300
533	STABILIZED LEVEL FLIGHT	309	80.0	-100.980 190.740
534	STABILIZED LEVEL FLIGHT	309	91.0	-157.080 201.960
535	STABILIZED LEVEL FLIGHT	309	100.0	-100.980 168.300
536	STABILIZED LEVEL FLIGHT	309	110.0	-112.200 179.520
537	STABILIZED LEVEL FLIGHT	309	115.0	-168.300 213.180
538	STABILIZED LEVEL FLIGHT	309	120.0	-213.180 258.060
539	STABILIZED LEVEL FLIGHT	324	23.0	-89.760 269.290
540	STABILIZED LEVEL FLIGHT	324	43.0	-44.880 157.080
541	STABILIZED LEVEL FLIGHT	324	59.0	-22.440 157.080
542	STABILIZED LEVEL FLIGHT	324	80.0	-44.880 157.080
543	STABILIZED LEVEL FLIGHT	324	91.0	-100.980 145.860
544	STABILIZED LEVEL FLIGHT	324	100.0	-33.660 123.420
545	STABILIZED LEVEL FLIGHT	324	110.0	-78.540 213.180
546	STABILIZED LEVEL FLIGHT	324	115.0	-89.760 179.520
547	STABILIZED LEVEL FLIGHT	324	120.0	-145.860 258.060

BELL HELICOPTER CO. PROGRAM F03 DATE 07/17/65 PROBLEM 2239 PAGE 17
 BASELINE STD BLADES

MODEL UH-1B 543 FLT. 1358 G.H. 7500 L0 ALT. 3000 FT HO
 SHIP AF62-2023 DATE 9 JULY 65 C.G. STA 133.2 OSC. NO. 1

CTR NO.	TEST CONDITION	RPM	KTS	VCAL	COLL BOOST TIME	MEAN	OSC
530	STABILIZED LEVEL FLIGHT	309	23.0		-87.100	104.920	
531	STABILIZED LEVEL FLIGHT	309	43.0		-91.495	91.455	
532	STABILIZED LEVEL FLIGHT	309	59.0		-69.680	78.390	
533	STABILIZED LEVEL FLIGHT	309	80.0		-56.615	82.745	
534	STABILIZED LEVEL FLIGHT	309	91.0		-56.615	126.295	
535	STABILIZED LEVEL FLIGHT	309	100.0		-60.970	165.490	
536	STABILIZED LEVEL FLIGHT	309	110.0		-91.495	195.975	
537	STABILIZED LEVEL FLIGHT	309	115.0		-43.550	252.590	
538	STABILIZED LEVEL FLIGHT	309	120.0		-82.745	326.625	
539	STABILIZED LEVEL FLIGHT	324	23.0		-39.195	108.875	
540	STABILIZED LEVEL FLIGHT	324	43.0		-56.615	91.455	
541	STABILIZED LEVEL FLIGHT	324	59.0		-21.775	74.035	
542	STABILIZED LEVEL FLIGHT	324	80.0		-39.195	117.585	
543	STABILIZED LEVEL FLIGHT	324	91.0		-60.970	148.070	
544	STABILIZED LEVEL FLIGHT	324	100.0		-56.615	178.555	
545	STABILIZED LEVEL FLIGHT	324	110.0		-60.970	209.040	
546	STABILIZED LEVEL FLIGHT	324	115.0		-74.035	239.525	
547	STABILIZED LEVEL FLIGHT	324	120.0		-74.035	291.785	

LOAD SURVEY - RADAR ANTENNA M/R BLACES

MODEL UH-1B 543 FLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 69 C.G. STA. 125.4 ALT. 3000 FT HD
NG. 1 CSC. NG. 1

CTR	TEST CONDITION	RPM	VCAL	PR BL GEAR STA 140
NG.	KTS	KTS	KTS	KTS
799	STABILIZED LEVEL FLIGHT	310	22.0	-851.0 145
800	STABILIZED LEVEL FLIGHT	310	43.0	-360.0 22.5
801	STABILIZED LEVEL FLIGHT	310	55.0	170.4 95
802	STABILIZED LEVEL FLIGHT	310	80.0	-493.0 030
803	STABILIZED LEVEL FLIGHT	310	91.0	-493.0 030
804	STABILIZED LEVEL FLIGHT	310	100.0	-760.0 440
805	STABILIZED LEVEL FLIGHT	310	115.0	170.4 95
806	STABILIZED LEVEL FLIGHT	310	126.0	435.0 905
807	STABILIZED LEVEL FLIGHT	324	23.0	-1023.0 050
808	STABILIZED LEVEL FLIGHT	324	43.0	-625.0 735
809	STABILIZED LEVEL FLIGHT	324	55.0	-360.0 225
810	STABILIZED LEVEL FLIGHT	324	80.0	-718.0 440
811	STABILIZED LEVEL FLIGHT	324	91.0	-758.0 440
812	STABILIZED LEVEL FLIGHT	324	100.0	-493.0 030
813	STABILIZED LEVEL FLIGHT	324	110.0	-493.0 030
814	STABILIZED LEVEL FLIGHT	324	115.0	-227.0 620
815	STABILIZED LEVEL FLIGHT	324	120.0	31.7 90

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LOAD SURVEY - RADAR ANTENNA M/R GLASSES

MODEL UH-1D 943 FLT: 143-A ALT. 3000 FT HC
SHIP AF 62-2023 DATE 19 AUG 63 C.G. STA: 129.4 CSC. KC. 1

CTR NO.	TEST CONDITION	VCAL RPM	PR BL KTS	BL BEAM MEAN	STA 84 CSC
799	STABILIZED LEVEL FLIGHT	310	22.0	1773.475	6477.255
800	STABILIZED LEVEL FLIGHT	310	43.0	1773.475	4953.195
801	STABILIZED LEVEL FLIGHT	310	59.0	2535.505	4953.195
802	STABILIZED LEVEL FLIGHT	310	86.0	3551.545	7239.285
803	STABILIZED LEVEL FLIGHT	310	91.0	3551.545	7493.295
804	STABILIZED LEVEL FLIGHT	310	100.0	4821.159	8CC1.312
805	STABILIZED LEVEL FLIGHT	310	115.0	7107.665	10C33.365
806	STABILIZED LEVEL FLIGHT	310	126.0	8065.755	12573.495
807	STABILIZED LEVEL FLIGHT	324	23.0	122.410	5388.220
808	STABILIZED LEVEL FLIGHT	324	43.0	-49559	4161.102
809	STABILIZED LEVEL FLIGHT	324	56.0	-131.600	4326.190
810	STABILIZED LEVEL FLIGHT	324	86.0	1392.460	6350.250
811	STABILIZED LEVEL FLIGHT	324	91.0	2154.440	6350.250
812	STABILIZED LEVEL FLIGHT	324	105.0	3424.940	6858.270
813	STABILIZED LEVEL FLIGHT	324	110.0	4186.370	7620.300
814	STABILIZED LEVEL FLIGHT	324	115.0	4313.575	8506.335
815	STABILIZED LEVEL FLIGHT	324	126.0	6091.645	10C33.365

LOAD SURVEY - RADAR ANTENNA M/R BLADES

PCGEL UH-1B 943 FLT. 143-A C.W. 75CC G.S. ALT. 3000 FT HD
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA: 125.4 DSC. KG. 1

CTA	TEST CONDITION	RPM	VCAL KTS	MR BL BEAM STA 6C MEAN CSC
799	STABILIZED LEVEL FLIGHT	310	23.0	-647.080 9640.221
800	STABILIZED LEVEL FLIGHT	310	43.0	-146.900 6000.560
801	STABILIZED LEVEL FLIGHT	310	59.0	2356.400 6000.559
802	STABILIZED LEVEL FLIGHT	310	80.0	4425.919 10654.980
803	STABILIZED LEVEL FLIGHT	310	91.0	4425.919 10147.600
804	STABILIZED LEVEL FLIGHT	310	100.0	6455.040 11162.360
805	STABILIZED LEVEL FLIGHT	310	119.0	11525.239 14206.040
806	STABILIZED LEVEL FLIGHT	310	125.0	14973.520 18265.680
807	STABILIZED LEVEL FLIGHT	324	23.0	-5214.300 7610.700
808	STABILIZED LEVEL FLIGHT	324	43.0	-3945.052 6342.250
809	STABILIZED LEVEL FLIGHT	324	59.0	-3662.160 6000.559
810	STABILIZED LEVEL FLIGHT	324	90.0	-447.080 8110.021
811	STABILIZED LEVEL FLIGHT	324	91.0	366.087 8118.000
812	STABILIZED LEVEL FLIGHT	324	100.0	2910.054 9132.040
813	STABILIZED LEVEL FLIGHT	324	110.0	5166.950 10601.290
814	STABILIZED LEVEL FLIGHT	324	115.0	5694.370 11416.050
815	STABILIZED LEVEL FLIGHT	324	120.0	10001.059 14206.040

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LOAD SURVEY - RADAR ANTENNA M/R ELADES

PCOEL UH-1B 843 FLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA# 125.4 GSC. NO. 1

STA NO.	TEST CONDITION	RPM	VCAI		HR BL BEAM STA 35 GSC
			KTS	MEN	
799	STABILIZED LEVEL FLIGHT	310	23.0	-4286.985	12370.494
800	STABILIZED LEVEL FLIGHT	310	43.0	-5117.895	9326.664
801	STABILIZED LEVEL FLIGHT	310	95.0	-549.870	10806.910
802	STABILIZED LEVEL FLIGHT	310	86.0	2363.974	14547.226
803	STABILIZED LEVEL FLIGHT	310	91.0	1947.840	13300.320
804	STABILIZED LEVEL FLIGHT	310	100.0	6519.924	16266.766
805	STABILIZED LEVEL FLIGHT	310	119.0	12585.719	20701.750
806	STABILIZED LEVEL FLIGHT	310	120.0	16157.704	26185.005
807	STABILIZED LEVEL FLIGHT	324	23.0	-13430.995	7897.065
808	STABILIZED LEVEL FLIGHT	324	43.0	-16936.745	9556.666
809	STABILIZED LEVEL FLIGHT	324	55.0	-12599.285	8720.335
810	STABILIZED LEVEL FLIGHT	324	80.0	-8856.571	11637.730
811	STABILIZED LEVEL FLIGHT	324	91.0	-7196.530	11637.780
812	STABILIZED LEVEL FLIGHT	324	100.0	-961.566	14547.225
813	STABILIZED LEVEL FLIGHT	324	110.0	1532.369	16266.764
814	STABILIZED LEVEL FLIGHT	324	115.0	701.039	18703.576
815	STABILIZED LEVEL FLIGHT	324	120.0	11091.610	22444.290

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LOAD SURVEY

- RADAR ANTENNA M/R

PRO - M F C G C E RQI - 4 2 6

LOAD SURVEY - RADAR ANTENNA M/R

NGCSEL UH-1B 543 FLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 65 G.H. 19CC 4^o.
C.G. STA. 125.4 CSC. AC. 1 ALT. 3000 FT HD

CIR	AC	TEST CONCITION	RPM	VCAI	PR PITCH LINK RED
			KTS	MEAN	CSC
799		STABILIZED LEVEL FLIGHT	310	23.0	-17.066
800		STABILIZED LEVEL FLIGHT	310	43.0	-51.166
801		STABILIZED LEVEL FLIGHT	310	59.0	-25.096
802		STABILIZED LEVEL FLIGHT	310	80.0	264.430
803		STABILIZED LEVEL FLIGHT	310	91.0	34.120
804		STABILIZED LEVEL FLIGHT	310	100.0	375.020
805		STABILIZED LEVEL FLIGHT	310	115.0	93.626
806		STABILIZED LEVEL FLIGHT	310	120.0	59.710
807		STABILIZED LEVEL FLIGHT	324	23.0	37.390
808		STABILIZED LEVEL FLIGHT	324	43.0	34.120
809		STABILIZED LEVEL FLIGHT	324	55.0	64.8.280
810		STABILIZED LEVEL FLIGHT	324	60.0	-42.690
811		STABILIZED LEVEL FLIGHT	324	91.0	-102.366
812		STABILIZED LEVEL FLIGHT	324	100.0	-34.120
813		STABILIZED LEVEL FLIGHT	324	110.0	259.900
814		STABILIZED LEVEL FLIGHT	324	115.0	315.610
815		STABILIZED LEVEL FLIGHT	324	120.0	68.240
					59.710
					466.620
					65.360
					528.860
					42.690
					605.630

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LEAD SURVEY - RADAR ANTENNA M/R BLADES

NC011 UH-1B 343 FLT. 143-A G.W. 7500 LB. ALT. 3000 FT MD
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA. 125.4 GSC. NC. 1

CTR	TEST CONDITION	RPM	CAL		MEAN GSC	MEAN GSC
			K15	K15		
NC0	STABILIZED LEVEL FLIGHT	310	23.0	-513.9.750	45323.250	J
799	STABILIZED LEVEL FLIGHT	310	43.0	-6410.500	31773.050	
800	STABILIZED LEVEL FLIGHT	310	55.0	-7242.375	21721.125	
801	STABILIZED LEVEL FLIGHT	310	80.0	-700.875	22194.375	
802	STABILIZED LEVEL FLIGHT	310	91.0	-467.250	22895.250	
803	STABILIZED LEVEL FLIGHT	310	100.0	0.001	29504.000	
804	STABILIZED LEVEL FLIGHT	310	115.0	116.125	26355.625	
805	STABILIZED LEVEL FLIGHT	310	120.0	0.000	33174.750	
806	STABILIZED LEVEL FLIGHT	310	120.0	-1050.375	32473.875	
807	STABILIZED LEVEL FLIGHT	324	23.0	-11601.250	26297.000	
808	STABILIZED LEVEL FLIGHT	324	43.0	-11601.250	26297.000	
809	STABILIZED LEVEL FLIGHT	324	55.0	-6644.124	17948.125	
810	STABILIZED LEVEL FLIGHT	324	80.0	-4672.500	19157.250	
811	STABILIZED LEVEL FLIGHT	324	91.0	-3504.374	17986.125	
812	STABILIZED LEVEL FLIGHT	324	100.0	-2102.624	20329.375	
813	STABILIZED LEVEL FLIGHT	324	110.0	-2565.875	20329.374	
814	STABILIZED LEVEL FLIGHT	324	119.0	-1401.749	19624.500	
815	STABILIZED LEVEL FLIGHT	324	120.0	-700.874	25932.375	

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REPORT NO. 1 P DP C6 1005 - AGE 2000 FT HC

LOAD SURVEY - RACAR ANTENNA M/R BLADES

NOSEL UH-1B 543 FLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 65

C.W. 75CC L8^o ALT. 3000 FT HC
C.G. STA. 125.4 CEC. NO. 1

CTR	NC ^a	TEST CONDITION	RPM	VCAL	MR CRAC BRACE	CSC
			KTS	MEAN		
	799	STABILIZED LEVEL FLIGHT	310	23° C	4860.12C	4255.600
	800	STABILIZED LEVEL FLIGHT	310	43° C	5011.360	3253.140
	801	STABILIZED LEVEL FLIGHT	310	55° C	4860.12C	2863.600
	802	STABILIZED LEVEL FLIGHT	310	80° C	4152.22C	3575.500
	803	STABILIZED LEVEL FLIGHT	310	91° C	3865.88C	3865.880
	804	STABILIZED LEVEL FLIGHT	310	100° C	3149.96C	4004.640
	805	STABILIZED LEVEL FLIGHT	310	112° C	3026.78C	4724.940
	806	STABILIZED LEVEL FLIGHT	310	126° C	3026.78C	3584.020
	807	STABILIZED LEVEL FLIGHT	324	23° C	4860.12C	3722.680
	808	STABILIZED LEVEL FLIGHT	324	43° C	5154.48C	3149.960
	809	STABILIZED LEVEL FLIGHT	324	59° C	4432.58C	2720.420
	810	STABILIZED LEVEL FLIGHT	324	80° C	4961.76C	3149.960
	811	STABILIZED LEVEL FLIGHT	324	91° C	4981.76C	3436.320
	812	STABILIZED LEVEL FLIGHT	324	100° C	4152.22C	3575.500
	813	STABILIZED LEVEL FLIGHT	324	112° C	3722.68C	4004.640
	814	STABILIZED LEVEL FLIGHT	324	126° C	3436.32C	4004.640
	815	STABILIZED LEVEL FLIGHT	324	126° C	3579.58C	3579.580

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LOAD SURVEY - RACER ANTENNA H/R

NO COEL UH-1B 543 PLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 65 C.H. 7500 LB.
C.G. STA: 123-4 ALT. 3000 FT HC
O.S.C. NO. 1

BLACES

CTR.	NO.	TEST CONDITION	VCAL PR YCKE BREAK STA 6		
			RPM	KTS	MEAN GSC
	799	STABILIZED LEVEL FLIGHT	310	23°C	-41020.330
	800	STABILIZED LEVEL FLIGHT	310	43°C	-39482.159
	801	STABILIZED LEVEL FLIGHT	310	59°C	-35482.199
	802	STABILIZED LEVEL FLIGHT	310	86°C	-39482.199
	803	STABILIZED LEVEL FLIGHT	310	91°C	-39482.159
	804	STABILIZED LEVEL FLIGHT	310	100°C	-42950.919
	805	STABILIZED LEVEL FLIGHT	310	115°C	-31943.919
	806	STABILIZED LEVEL FLIGHT	310	120°C	-36409.798
	807	STABILIZED LEVEL FLIGHT	310	123°C	-42469.039
	808	STABILIZED LEVEL FLIGHT	324	91°C	-51787.559
	809	STABILIZED LEVEL FLIGHT	324	93°C	-53325.719
	810	STABILIZED LEVEL FLIGHT	324	96°C	-53325.719
	811	STABILIZED LEVEL FLIGHT	324	99°C	-51787.559
	812	STABILIZED LEVEL FLIGHT	324	100°C	-51667.959
	813	STABILIZED LEVEL FLIGHT	324	110°C	-51787.599
	814	STABILIZED LEVEL FLIGHT	324	115°C	-57940.319
	815	STABILIZED LEVEL FLIGHT	324	120°C	-44099.700

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LOAD SURVEY - RADAR ANTENNA W/R BLADES

MODEL UH-1B 543 FLT. 143-A 60N. 75CC 12° ALT. 3000 FT RC
SHIP AF 62-2023 DATE 19 AUG '65 C.G. STA. 125.4 CSC. NO. 1

CTR	TEST CONDITION	RPM	VCAL KTS	VR BL CHORD STA 60 MEAN CSC
799	STABILIZED LEVEL FLIGHT	310	23.0	52716.424 67462.694
800	STABILIZED LEVEL FLIGHT	310	43.0	52537.315 56119.610
801	STABILIZED LEVEL FLIGHT	310	59.0	55104.483 38805.975
802	STABILIZED LEVEL FLIGHT	310	80.0	45671.647 46567.168
803	STABILIZED LEVEL FLIGHT	310	91.0	45671.648 50149.260
804	STABILIZED LEVEL FLIGHT	310	100.0	66865.676 58507.469
805	STABILIZED LEVEL FLIGHT	310	115.0	71044.782 61492.345
806	STABILIZED LEVEL FLIGHT	310	120.0	75223.808 78865.979
807	STABILIZED LEVEL FLIGHT	324	23.0	61692.542 55522.395
808	STABILIZED LEVEL FLIGHT	324	43.0	57313.431 42965.680
809	STABILIZED LEVEL FLIGHT	324	59.0	69671.647 34626.869
910	STABILIZED LEVEL FLIGHT	324	80.0	65671.646 46597.020
911	STABILIZED LEVEL FLIGHT	324	91.0	70447.765 41751.049
912	STABILIZED LEVEL FLIGHT	324	100.0	70820.902 47164.186
913	STABILIZED LEVEL FLIGHT	324	110.0	77014.931 50746.272
914	STABILIZED LEVEL FLIGHT	324	112.0	72805.978 51343.291
915	STABILIZED LEVEL FLIGHT	324	120.0	62689.959 62689.959

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LOAD SURVEY - RADAR ANTENNA M/R BLADES

MC001 UH-1B 543 FLT. 143-1
SWIP # 62-2029 DATE 19 AUG 65 C.G. STA: 125.4 OSC. MC. 1
ALL. 3000 FT HD

CRN	TEST CONDITION	RPM	VCAL	MR YKE CHGND STA 6
NCI		KTS	MEAN	GSC
799	STABILIZED LEVEL FLIGHT	310	22.0	42556.430
800	STABILIZED LEVEL FLIGHT	310	43.0	38200.255
801	STABILIZED LEVEL FLIGHT	310	59.0	41886.250
802	STABILIZED LEVEL FLIGHT	310	80.0	46912.000
803	STABILIZED LEVEL FLIGHT	310	91.0	52274.036
804	STABILIZED LEVEL FLIGHT	310	115.0	59901.1C9
805	STABILIZED LEVEL FLIGHT	310	120.0	83075.711
806	STABILIZED LEVEL FLIGHT	310	120.0	83172.499
807	STABILIZED LEVEL FLIGHT	310	124.0	58640.751
808	STABILIZED LEVEL FLIGHT	324	42.0	35184.050
809	STABILIZED LEVEL FLIGHT	324	95.0	43896.790
910	STABILIZED LEVEL FLIGHT	324	96.0	47247.690
911	STABILIZED LEVEL FLIGHT	324	96.0	52274.041
912	STABILIZED LEVEL FLIGHT	324	116.0	54954.760
913	STABILIZED LEVEL FLIGHT	324	116.0	67353.069
914	STABILIZED LEVEL FLIGHT	324	115.0	72044.347
915	STABILIZED LEVEL FLIGHT	324	120.0	71374.168
				89804.119

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LGAC SURVEY - RADAR ANTENNA M/R GLADES

PCGEL UH-1B 543 FLT. 143-4
SHIP AF 62-2023 DATE 19 AUG 65

Gph. 7500 18°
C.G. STA. 125.4

Alt. 3000 FT MD
GSC. AC. 1

CTR NO.	TEST CONDITION	SPN	KTS	VCAL	VR FLAPPING
799	STABILIZED LEVEL FLIGHT	310	23.0	0.254	20.286
800	STABILIZED LEVEL FLIGHT	310	43.0	0.234	23.014
801	STABILIZED LEVEL FLIGHT	310	59.0	0.882	22.050
802	STABILIZED LEVEL FLIGHT	310	80.0	0.588	22.344
803	STABILIZED LEVEL FLIGHT	310	91.0	0.524	21.168
804	STABILIZED LEVEL FLIGHT	310	100.0	0.568	19.916
805	STABILIZED LEVEL FLIGHT	310	115.0	0.254	17.346
806	STABILIZED LEVEL FLIGHT	310	120.0	1.41C	16.522
807	STABILIZED LEVEL FLIGHT	324	23.0	0.294	22.638
808	STABILIZED LEVEL FLIGHT	324	42.0	0.568	23.520
809	STABILIZED LEVEL FLIGHT	324	59.0	0.882	23.226
810	STABILIZED LEVEL FLIGHT	324	90.0	0.294	20.874
811	STABILIZED LEVEL FLIGHT	324	91.0	0.566	20.580
812	STABILIZED LEVEL FLIGHT	324	106.0	0.882	17.936
813	STABILIZED LEVEL FLIGHT	324	110.0	1.17E	17.640
814	STABILIZED LEVEL FLIGHT	324	115.0	0.882	17.346
815	STABILIZED LEVEL FLIGHT	324	120.0	2.058	15.582

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LOUD SURVEY - RACCS ANTENNA N/R BLADES

MODEL UH-1B 843 FLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA. 123-4 OSC. NC.

CTR	TEST CONDITION	KPH	VCAL		PILOT VERT VIBRATION
			KTS	MEAN	
799	STABILIZED LEVEL FLIGHT	310	23.0	1.000	0.986
800	STABILIZED LEVEL FLIGHT	310	43.0	1.006	0.998
801	STABILIZED LEVEL FLIGHT	310	59.0	1.000	0.998
802	STABILIZED LEVEL FLIGHT	310	80.0	0.994	0.944
803	STABILIZED LEVEL FLIGHT	310	91.0	0.988	0.126
804	STABILIZED LEVEL FLIGHT	310	100.0	0.980	0.167
805	STABILIZED LEVEL FLIGHT	310	115.0	0.954	0.184
806	STABILIZED LEVEL FLIGHT	310	120.0	0.968	0.216
807	STABILIZED LEVEL FLIGHT	324	22.0	1.011	0.030
808	STABILIZED LEVEL FLIGHT	324	43.0	1.034	0.069
809	STABILIZED LEVEL FLIGHT	324	59.0	0.977	0.080
810	STABILIZED LEVEL FLIGHT	324	86.0	1.012	0.092
811	STABILIZED LEVEL FLIGHT	324	91.0	0.977	0.104
812	STABILIZED LEVEL FLIGHT	324	100.0	1.006	0.144
813	STABILIZED LEVEL FLIGHT	324	110.0	0.965	0.172
814	STABILIZED LEVEL FLIGHT	324	115.0	0.948	0.190
815	STABILIZED LEVEL FLIGHT	324	120.0	1.006	0.224

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LEGEND SURVEY - PLACAR ANTENNA W/ S 81805

SCORER UH-1B 543 FLT 163-A G.A. 75CC 60 DATE 19 AUG 65 C.G. 51AD 125.4 C.G. AC. 1 ALI. 3000 FI HC SHIP AF 62-2023

CIR CO-PILOT VÉRIFIE

TEST CONDITION	RPM	KTS	MEAN CSC	C 185
STABILIZED LIGHT	312	23.6	1.623	

STABILIZER LEVEL	FLIGHT	TIME	VELOCITY	ANGLE
10°	310	42.6	1.027	0.052
20°	310	42.6	1.027	0.052

STABILIZED LEVEL FLIGHT 310 56.0 1.016 C.082

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STABILIZED LEVEL FLIGHT C. 200

SANITIZED LEVEL FLIGHT 310 115.0 0.945 : C. 219

LEVEL 1201-1204 LIGHT

STABILIZERS LEVEL	FLIGHT	324	43.0	1.022	C.008
0.000	0.000	0.000	0.000	0.000	0.000

• 0.682
• 0.712
• 0.732
• 0.752

STABILIZING LEVEL FLIGHT 324 100.0 0.994 0.215

STABLE LEVEL PLIGHT 324 120.6 1.000 C. 319

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LOAD SURVEY - RACAA ANTENNA M/R

MODEL UH-1B 543 FLT 143-A
SHIP AF 62-2023 DATE 19 AUG 65

G.W. 75CC LB.
C.G. STA. 125.4 OSC. NO. 1

Alt. 3000 FT HG

CTA NO.	TEST CONCITION	RPM	ACAL	CG VERT VIBRATION		
				KTS	MEAN	OSC
799	STABILIZED LEVEL FLIGHT	310	23.0	1.026	C.131	
800	STABILIZED LEVEL FLIGHT	310	42.0	1.031	0.095	
801	STABILIZED LEVEL FLIGHT	310	59.0	1.032	C.073	
802	STABILIZED LEVEL FLIGHT	310	80.0	1.011	C.055	
803	STABILIZED LEVEL FLIGHT	310	91.0	0.950	0.073	
804	STABILIZED LEVEL FLIGHT	310	100.0	0.950	C.116	
805	STABILIZED LEVEL FLIGHT	310	115.0	0.965	C.116	
806	STABILIZED LEVEL FLIGHT	310	120.0	0.945	C.042	
807	STABILIZED LEVEL FLIGHT	324	22.0	0.975	0.147	
808	STABILIZED LEVEL FLIGHT	324	43.0	1.042	C.126	
809	STABILIZED LEVEL FLIGHT	324	56.0	0.963	C.079	
810	STABILIZED LEVEL FLIGHT	324	80.0	1.011	C.115	
811	STABILIZED LEVEL FLIGHT	324	91.0	0.990	0.126	
812	STABILIZED LEVEL FLIGHT	324	100.0	0.950	C.147	
813	STABILIZED LEVEL FLIGHT	324	110.0	1.000	C.126	
814	STABILIZED LEVEL FLIGHT	324	115.0	0.942	C.131	
815	STABILIZED LEVEL FLIGHT	324	120.0	1.063	C.136	

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0E-- VEL. IPR. CC. ROT. 4 P. C. - C.R. - /20 ROT. 1 2 P. 1

LCAD SURVEY - RACAR ANTENNA W/R BLADES

MCDEL UH-1B 543 FLT. 143-A
SHIP AF 02-2023 DATE 19 AUG 65 GND. 7500 LH.
C.G. STAB 125.4 ALT. 3000 FT HD
CSC. NC. 1

CTR	TEST CONDITION	RPM	VGAL KIS	R/H CYC ACCST TUE
NC.			MEAN	CSC
799	STABILIZED LEVEL FLIGHT	310	23.6	151.125 220.875
800	STABILIZED LEVEL FLIGHT	310	42.6	116.250 139.500
801	STABILIZED LEVEL FLIGHT	310	39.6	135.900 139.500
802	STABILIZED LEVEL FLIGHT	310	80.6	139.500 162.750
803	STABILIZED LEVEL FLIGHT	310	91.6	197.625 167.625
804	STABILIZED LEVEL FLIGHT	310	100.6	151.125 267.375
805	STABILIZED LEVEL FLIGHT	310	115.6	151.125 312.875
806	STABILIZED LEVEL FLIGHT	310	126.6	269.250 441.750
807	STABILIZED LEVEL FLIGHT	324	23.6	139.500 279.000
808	STABILIZED LEVEL FLIGHT	324	42.6	127.875 174.375
809	STABILIZED LEVEL FLIGHT	324	56.6	116.250 136.500
810	STABILIZED LEVEL FLIGHT	324	86.6	127.875 214.375
811	STABILIZED LEVEL FLIGHT	324	91.6	208.250 209.240
812	STABILIZED LEVEL FLIGHT	324	106.6	174.375 290.625
813	STABILIZED LEVEL FLIGHT	324	210.6	151.125 340.375
814	STABILIZED LEVEL FLIGHT	324	115.6	139.500 325.500
815	STABILIZED LEVEL FLIGHT	324	126.6	197.625 323.625

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LOAD SURVEY - RACAR ANTENNA M/R

MODEL UH-1B 543 FLT. 143-A
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA. 125.4 USC. MC. 1

CTA	NC.	TEST CONDITION	RPM	VCAL	L/H CYC	BCCST	TUEE
				KLS	MEAN	CSC	CSC
-	799	STABILIZED LEVEL FLIGHT	310	23.0	11.125	166.875	
W	800	STABILIZED LEVEL FLIGHT	310	43.0	64.750	111.250	
	801	STABILIZED LEVEL FLIGHT	310	59.0	55.625	164.625	
	802	STABILIZED LEVEL FLIGHT	310	86.0	-11.125	144.625	
	803	STABILIZED LEVEL FLIGHT	310	91.0	-33.375	166.875	
	804	STABILIZED LEVEL FLIGHT	310	100.0	-77.675	139.125	
	805	STABILIZED LEVEL FLIGHT	310	115.0	-89.000	222.500	
	806	STABILIZED LEVEL FLIGHT	310	120.0	-166.875	211.375	
	807	STABILIZED LEVEL FLIGHT	324	23.0	-11.125	166.875	
	808	STABILIZED LEVEL FLIGHT	324	43.0	32.375	122.375	
	809	STABILIZED LEVEL FLIGHT	324	59.0	22.250	133.500	
	810	STABILIZED LEVEL FLIGHT	324	86.0	-0.000	195.750	
	811	STABILIZED LEVEL FLIGHT	324	91.0	-33.375	166.875	
	812	STABILIZED LEVEL FLIGHT	324	100.0	-44.500	195.750	
	813	STABILIZED LEVEL FLIGHT	324	116.0	-89.000	222.500	
	814	STABILIZED LEVEL FLIGHT	324	115.0	-111.250	244.750	
	815	STABILIZED LEVEL FLIGHT	324	120.0	-122.375	233.625	

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ICAO SURVEY - RACER ANTENNA H/R BLADES

MODEL UH-1B 543 FLT. 143-A
SNIP AF 62-2023 DATE 19 AUG 65 G.H. 7500 L64 C.G. STAB, 125.4 CSC. NO. 1

CRN	TEST CONDITION	RPM	XTS	VCAL	COLL. BOOST	TYPE
NO.				MEAN		CSC
799	STABILIZED LEVEL FLIGHT	310	23.0	4.0-CES	77.615	
800	STABILIZED LEVEL FLIGHT	310	43.0	32.685	69.870	
801	STABILIZED LEVEL FLIGHT	310	59.0	28.595	93.455	
802	STABILIZED LEVEL FLIGHT	310	80.0	9.000	122.530	
803	STABILIZED LEVEL FLIGHT	310	91.0	33.165	151.149	
804	STABILIZED LEVEL FLIGHT	310	100.0	36.765	224.675	
805	STABILIZED LEVEL FLIGHT	310	115.0	61.275	249.165	
806	STABILIZED LEVEL FLIGHT	310	120.0	49.020	334.970	
807	STABILIZED LEVEL FLIGHT	324	23.0	44.935	102.125	
808	STABILIZED LEVEL FLIGHT	324	43.0	77.615	71.615	
809	STABILIZED LEVEL FLIGHT	324	59.0	61.275	102.125	
810	STABILIZED LEVEL FLIGHT	324	80.0	61.275	142.912	
811	STABILIZED LEVEL FLIGHT	324	91.0	77.615	175.635	
812	STABILIZED LEVEL FLIGHT	324	100.0	53.105	216.905	
813	STABILIZED LEVEL FLIGHT	324	110.0	65.360	253.270	
814	STABILIZED LEVEL FLIGHT	324	115.0	61.275	265.925	
815	STABILIZED LEVEL FLIGHT	324	120.0	106.210	289.950	

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LEAD SURVEY - RACIN ANTENNA H/R

BLADES

MODEL VH-1B 243 FLT. 143-8 G.W. 7500 LB ALT. 3000 FT MC
 SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA. 133.2 OSC. NO. 1

CTR.	TEST CONDITION	RPM	VACAL KTS	MR BL BEAM STA 140 MEAN CSC
833	STABILIZED LEVEL FLIGHT	310	23.0	-891.3CC
834	STABILIZED LEVEL FLIGHT	310	43.0	-59.1CC
835	STABILIZED LEVEL FLIGHT	310	59.0	45C9.9CC
836	STABILIZED LEVEL FLIGHT	310	66.0	439.7CC
837	STABILIZED LEVEL FLIGHT	310	91.0	360.5CC
838	STABILIZED LEVEL FLIGHT	310	100.0	95.1CC
839	STABILIZED LEVEL FLIGHT	310	110.0	170.3CC
840	STABILIZED LEVEL FLIGHT	310	119.0	-493.2CC
841	STABILIZED LEVEL FLIGHT	310	120.0	-227.8CC
842	STABILIZED LEVEL FLIGHT	324	23.0	96.3CC
843	STABILIZED LEVEL FLIGHT	324	42.0	9952.5CC
844	STABILIZED LEVEL FLIGHT	324	59.0	-1624.0CC
845	STABILIZED LEVEL FLIGHT	324	60.0	4511.0CC
846	STABILIZED LEVEL FLIGHT	324	91.0	17.6CC
847	STABILIZED LEVEL FLIGHT	324	100.0	37.6CC
848	STABILIZED LEVEL FLIGHT	324	110.0	-95.1CC
849	STABILIZED LEVEL FLIGHT	324	115.0	-227.8CC
850	STABILIZED LEVEL FLIGHT	324	120.0	7696.600

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LOAD SURVEY - RACAR ANTENNA M/R

BLADES

HCHEL UH-1E 243 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65 C.M. 79CC LBS. ALT. 3000 FT MD

C.G. STA: 133.2 ESC. NC. 1

CIR NO.	TEST CONDITION	RPM KTS	VCAL MEAN	PR BL BEAM STA 34 CSC	
				833 STABILIZED LEVEL FLIGHT	4054.750 5810.250
834	STABILIZED LEVEL FLIGHT	310 42.0	2503.750 5557.750	834 STABILIZED LEVEL FLIGHT	2503.750 5557.750
835	STABILIZED LEVEL FLIGHT	310 59.0	3667.000 5667.000	835 STABILIZED LEVEL FLIGHT	3667.000 5667.000
836	STABILIZED LEVEL FLIGHT	310 80.0	4571.0750 7629.750	836 STABILIZED LEVEL FLIGHT	4571.0750 7629.750
837	STABILIZED LEVEL FLIGHT	310 91.0	5605.750 8655.750	837 STABILIZED LEVEL FLIGHT	5605.750 8655.750
838	STABILIZED LEVEL FLIGHT	310 102.0	7673.750 9176.750	838 STABILIZED LEVEL FLIGHT	7673.750 9176.750
839	STABILIZED LEVEL FLIGHT	310 113.0	9224.750 10986.250	839 STABILIZED LEVEL FLIGHT	9224.750 10986.250
840	STABILIZED LEVEL FLIGHT	310 125.0	8649.250 10666.250	840 STABILIZED LEVEL FLIGHT	8649.250 10666.250
841	STABILIZED LEVEL FLIGHT	310 136.0	10228.750 12312.750	841 STABILIZED LEVEL FLIGHT	10228.750 12312.750
842	STABILIZED LEVEL FLIGHT	324 23.0	2503.750 5040.750	842 STABILIZED LEVEL FLIGHT	2503.750 5040.750
843	STABILIZED LEVEL FLIGHT	324 42.0	1469.750 3259.250	843 STABILIZED LEVEL FLIGHT	1469.750 3259.250
844	STABILIZED LEVEL FLIGHT	324 59.0	1857.500 4394.500	844 STABILIZED LEVEL FLIGHT	1857.500 4394.500
845	STABILIZED LEVEL FLIGHT	324 80.0	2116.000 5667.000	845 STABILIZED LEVEL FLIGHT	2116.000 5667.000
846	STABILIZED LEVEL FLIGHT	324 91.0	3667.000 6721.000	846 STABILIZED LEVEL FLIGHT	3667.000 6721.000
847	STABILIZED LEVEL FLIGHT	324 100.0	4442.500 7238.000	847 STABILIZED LEVEL FLIGHT	4442.500 7238.000
848	STABILIZED LEVEL FLIGHT	324 111.0	5347.250 7894.250	848 STABILIZED LEVEL FLIGHT	5347.250 7894.250
849	STABILIZED LEVEL FLIGHT	324 112.0	5864.250 8916.250	849 STABILIZED LEVEL FLIGHT	5864.250 8916.250
850	STABILIZED LEVEL FLIGHT	324 120.0	6769.000 9823.000	850 STABILIZED LEVEL FLIGHT	6769.000 9823.000

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LCAO SURVEY - RACAR ANTENNA M/R BLADES

MODEL UH-1B 543 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65 C-N. 7500 Lg. C.G. STA: 433.2 QSC. NO. 1

CTR	TEST CONDITION	RPM	VCAI	MR DL BEAM STA 6C
NG.	KTS	KTS	MEN	CSC
633	STABILIZED LEVEL FLIGHT	310	23.0	2904.395
634	STABILIZED LEVEL FLIGHT	310	43.0	367.359
635	STABILIZED LEVEL FLIGHT	310	59.0	3665.459
636	STABILIZED LEVEL FLIGHT	310	80.0	6709.899
637	STABILIZED LEVEL FLIGHT	310	91.0	10401.700
638	STABILIZED LEVEL FLIGHT	310	100.0	1217.300
639	STABILIZED LEVEL FLIGHT	310	110.0	11022.759
640	STABILIZED LEVEL FLIGHT	310	115.0	14828.295
641	STABILIZED LEVEL FLIGHT	310	115.0	13813.459
642	STABILIZED LEVEL FLIGHT	324	23.0	14320.899
643	STABILIZED LEVEL FLIGHT	324	43.0	-9C1.1C1
644	STABILIZED LEVEL FLIGHT	324	55.0	-3164.4C1
645	STABILIZED LEVEL FLIGHT	324	86.0	-1662.2C1
646	STABILIZED LEVEL FLIGHT	324	91.0	-901.1C1
647	STABILIZED LEVEL FLIGHT	324	100.0	1889.599
648	STABILIZED LEVEL FLIGHT	324	110.0	2441.355
649	STABILIZED LEVEL FLIGHT	324	115.0	7471.000
650	STABILIZED LEVEL FLIGHT	324	120.0	7470.959
				12177.660
				13655.800

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LOAD SURVEY - RADAR ANTENNA M/R
PLACES

MODEL UH-1B S43 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65 C.H. 1500 L6°
C.G. STA. 133.2 ALT. 3000 FT H
C.G. STA. 133.2 ALT. 3000 FT H
C.G. STA. 133.2 ALT. 3000 FT H

CTR	TEST CONDITION	RPM	VCAL	MR BL BEAN STA 35
NCL		KTS	MEAN	CSC
633	STABILIZED LEVEL FLIGHT	310	23.0	-1020.2C1
634	STABILIZED LEVEL FLIGHT	310	43.0	-5701.25C
635	STABILIZED LEVEL FLIGHT	310	55.0	1533.65C
636	STABILIZED LEVEL FLIGHT	310	66.0	11915.660
637	STABILIZED LEVEL FLIGHT	310	91.0	4511.59C
638	STABILIZED LEVEL FLIGHT	310	100.0	7490.8CC
639	STABILIZED LEVEL FLIGHT	310	116.0	13440.651
640	STABILIZED LEVEL FLIGHT	310	115.0	12555.1CC
641	STABILIZED LEVEL FLIGHT	310	120.0	23830.8CC
642	STABILIZED LEVEL FLIGHT	324	23.0	23810.8CC
643	STABILIZED LEVEL FLIGHT	324	43.0	-12935.39S
644	STABILIZED LEVEL FLIGHT	324	55.0	-8680.100
645	STABILIZED LEVEL FLIGHT	324	80.0	-7826.999
646	STABILIZED LEVEL FLIGHT	324	91.0	-5275.65S
647	STABILIZED LEVEL FLIGHT	324	100.0	-582.000
648	STABILIZED LEVEL FLIGHT	324	116.0	4511.95C
649	STABILIZED LEVEL FLIGHT	324	115.0	4937.5C1
650	STABILIZED LEVEL FLIGHT	324	120.0	8341.89S

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LOAD SURVEY - RADAR ANTENNA W/R BLADES

NCODE UH-1B 543 FLT: 143-8 C.H. 7500 FT ALT. 3000 FT HU
 SHIP AF 62-2023 DATE 19 AUG 65 C.G. STRA: 123.2 OSC. NC. 1

CTA	TEST CONDITION	RPM	VCAL KTS	HR PITCH LINK RED MEAN G/C
633	STABILIZED LEVEL FLIGHT	310	23.0	-77.4CC 215.0CC
634	STABILIZED LEVEL FLIGHT	310	43.0	24.4CC 326.0CC
635	STABILIZED LEVEL FLIGHT	310	55.0	25.8CC 301.0CC
636	STABILIZED LEVEL FLIGHT	310	86.0	96.8CC 305.6CC
637	STABILIZED LEVEL FLIGHT	310	91.0	129.0CC 369.8CC
638	STABILIZED LEVEL FLIGHT	310	100.0	137.4CC 395.6CC
639	STABILIZED LEVEL FLIGHT	310	110.0	137.4CC 916.0CC
640	STABILIZED LEVEL FLIGHT	310	119.0	172.0CC 496.8CC
641	STABILIZED LEVEL FLIGHT	310	120.0	60.2CC 645.0CC
642	STABILIZED LEVEL FLIGHT	324	23.0	8.6CC 318.2CC
643	STABILIZED LEVEL FLIGHT	324	43.0	-0.0CC 309.6CC
644	STABILIZED LEVEL FLIGHT	324	59.0	-43.0CC 283.8CC
645	STABILIZED LEVEL FLIGHT	324	80.0	25.0CC 318.2CC
646	STABILIZED LEVEL FLIGHT	324	91.0	86.0CC 378.4CC
647	STABILIZED LEVEL FLIGHT	324	100.0	111.8CC 621.4CC
648	STABILIZED LEVEL FLIGHT	324	110.0	111.0CC 421.4CC
649	STABILIZED LEVEL FLIGHT	324	115.0	129.0CC 638.6CC
650	STABILIZED LEVEL FLIGHT	324	126.0	94.6CC 576.2CC

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BL 1001 PRC 1 C 08 1000 1000

ICAO SURVEY - RACAR ANTENNA M/R

MODEL UH-1B 543 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65 G.W. 7500 LB. ALT. 3000 FT HC

BLADES

CTR NO.	TEST CONDITION	RPM	VCAL KTS	HR DRAG BRACE SEAN	CSC
833	STABILIZED LEVEL FLIGHT	310	23.0	4009.600	3123.200
834	STABILIZED LEVEL FLIGHT	310	42.0	5012.000	3007.200
835	STABILIZED LEVEL FLIGHT	310	55.0	4068.900	2864.000
836	STABILIZED LEVEL FLIGHT	310	60.0	4582.400	3150.400
837	STABILIZED LEVEL FLIGHT	310	91.0	4435.200	3266.400
838	STABILIZED LEVEL FLIGHT	310	100.0	2580.000	4429.200
839	STABILIZED LEVEL FLIGHT	310	110.0	2150.400	4868.800
840	STABILIZED LEVEL FLIGHT	310	115.0	3293.600	4725.600
841	STABILIZED LEVEL FLIGHT	310	120.0	3253.600	5071.200
842	STABILIZED LEVEL FLIGHT	324	22.0	5012.000	3580.000
843	STABILIZED LEVEL FLIGHT	324	43.0	5155.200	3150.400
844	STABILIZED LEVEL FLIGHT	324	55.0	5155.200	2577.600
845	STABILIZED LEVEL FLIGHT	324	80.0	4868.800	2291.200
846	STABILIZED LEVEL FLIGHT	324	91.0	4582.400	3150.400
847	STABILIZED LEVEL FLIGHT	324	100.0	4009.600	3150.400
848	STABILIZED LEVEL FLIGHT	324	110.0	2580.000	3590.000
849	STABILIZED LEVEL FLIGHT	324	115.0	3723.200	4009.600
850	STABILIZED LEVEL FLIGHT	324	120.0	2150.400	4582.400

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LOAD SURVEY - RADAR ANTENNA #4A

PCOEL UH-1E 543 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65G.H. 7500 LB. ALT. 3000 FT HD
C.G. STA: 133.2 CSC. NC. 1

CIR NG.	TEST CONCITION	RPM	KTS	WCA	HR YCKE DEAM STA 6
				MEAN	CSC
833	STABILIZED LEVEL FLIGHT	310	23.0	-37644.220	16626.200
834	STABILIZED LEVEL FLIGHT	310	42.0	-27544.200	16920.200
835	STABILIZED LEVEL FLIGHT	310	55.0	-30252.155	15382.000
836	STABILIZED LEVEL FLIGHT	310	80.0	-36405.956	12305.600
837	STABILIZED LEVEL FLIGHT	310	91.0	-24100.358	15382.000
838	STABILIZED LEVEL FLIGHT	310	100.0	-27116.795	16458.401
839	STABILIZED LEVEL FLIGHT	310	110.0	-25638.556	23073.000
840	STABILIZED LEVEL FLIGHT	310	115.0	-57940.798	18458.401
841	STABILIZED LEVEL FLIGHT	310	120.0	-36867.798	26149.400
842	STABILIZED LEVEL FLIGHT	324	22.0	-51787.999	16458.399
843	STABILIZED LEVEL FLIGHT	324	43.0	-57940.798	18458.399
844	STABILIZED LEVEL FLIGHT	324	59.0	-50249.756	12643.756
845	STABILIZED LEVEL FLIGHT	324	82.0	-54804.358	9225.156
846	STABILIZED LEVEL FLIGHT	324	91.0	-47173.356	16920.200
847	STABILIZED LEVEL FLIGHT	324	100.0	-45625.156	18458.399
848	STABILIZED LEVEL FLIGHT	324	110.0	-50249.756	12643.756
849	STABILIZED LEVEL FLIGHT	324	115.0	-45635.156	18458.399
850	STABILIZED LEVEL FLIGHT	324	120.0	-54864.358	15382.000

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LEAD SURVEY - RADAR ANTENNA H/W PLACES

MODEL UH-1E 543 FLT. 143-B
SHIP AF 62-2023 DATE 19 AUG 65

C.O.W. 7500 LB.

C.G. STA. 133.2

O.S.C. 1

CTR	TEST CONCIT ION	RPH	VCA	PR BL CHORD STA 140
INC.		X TS	X TS	MEAN
- 933	STABILIZED LEVEL FLIGHT	310	23.0	- 88CC.450
- 934	STABILIZED LEVEL FLIGHT	310	43.0	- 5514.0CC
- 935	STABILIZED LEVEL FLIGHT	310	59.0	- 5514.0CC
- 936	STABILIZED LEVEL FLIGHT	310	86.0	- 3605.0CC
- 937	STABILIZED LEVEL FLIGHT	310	91.0	- 1189.250
- 938	STABILIZED LEVEL FLIGHT	310	100.0	- 19C2.800
- 939	STABILIZED LEVEL FLIGHT	310	110.0	30444.800
- 940	STABILIZED LEVEL FLIGHT	310	115.0	- 951.4CC
- 941	STABILIZED LEVEL FLIGHT	310	120.0	- 1427.1CC
- 942	STABILIZED LEVEL FLIGHT	324	22.0	- 9585.7CC
- 943	STABILIZED LEVEL FLIGHT	324	43.0	- 1C941.1CC
- 944	STABILIZED LEVEL FLIGHT	324	59.0	- 9989.7CC
- 945	STABILIZED LEVEL FLIGHT	324	80.0	- 7611.2CC
- 946	STABILIZED LEVEL FLIGHT	324	91.0	- 2616.35C
- 947	STABILIZED LEVEL FLIGHT	324	100.0	- 3329.9CC
- 948	STABILIZED LEVEL FLIGHT	324	110.0	- 475.7CC
- 949	STABILIZED LEVEL FLIGHT	324	115.0	- 713.550
- 950	STABILIZED LEVEL FLIGHT	324	120.0	24C22.850

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ICAO SURVEY - RACAR ANTENNA M/R

PROG1 UH-10 543 FLT 143-B C.O.B. 7500 180 AT T. 3000 FT HGT
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA: 123.2 OSC. AC. 1

CTR NO.	TEST CONDITION	RFM	VCAL	PR BL CHORC STA 60
		XTS	MEAN	CSC
833	STABILIZED LEVEL FLIGHT	310	23.0	55521.000 56714.999
834	STABILIZED LEVEL FLIGHT	310	42.0	54923.000 47756.999
835	STABILIZED LEVEL FLIGHT	310	55.0	57312.000 42684.000
836	STABILIZED LEVEL FLIGHT	310	80.0	62684.000 43580.999
837	STABILIZED LEVEL FLIGHT	310	91.0	66057.000 52536.000
838	STABILIZED LEVEL FLIGHT	310	100.0	69252.000 62088.001
839	STABILIZED LEVEL FLIGHT	310	110.0	69848.000 60266.999
840	STABILIZED LEVEL FLIGHT	310	115.0	69252.000 63262.000
841	STABILIZED LEVEL FLIGHT	310	120.0	76415.000 76999.000
842	STABILIZED LEVEL FLIGHT	324	23.0	60296.000 53132.999
843	STABILIZED LEVEL FLIGHT	324	42.0	59102.000 43580.999
844	STABILIZED LEVEL FLIGHT	324	55.0	61491.000 36416.999
845	STABILIZED LEVEL FLIGHT	324	80.0	65073.000 32834.999
846	STABILIZED LEVEL FLIGHT	324	91.0	71639.000 40556.000
847	STABILIZED LEVEL FLIGHT	324	100.0	70445.000 50148.000
848	STABILIZED LEVEL FLIGHT	324	110.0	76416.000 47160.000
849	STABILIZED LEVEL FLIGHT	324	115.0	75597.000 48954.000
850	STABILIZED LEVEL FLIGHT	324	120.0	75221.000 56923.000

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ICAO SURVEY - RAILAW ANTENNA M/R - BLADES

MODEL UH-1H 542 FLT. 143-8 G.H. 1900 Lbs. ALI. 1000 E1 HQ
SHP. AF 62-2023 CITE 19 AUG 65 C.G. 5123 113.2 CSC. AC. 1

TEST CONDITION	VCA	X TS	Y PEAN	Z STA 6	CHORD STA 6	
					CSC	CCS
STABILIZED LEVEL FLIGHT	45238	45238	45238	45238	586642	566642
STABILIZED LEVEL FLIGHT	310	430	36204	4000	482564	401
STABILIZED LEVEL FLIGHT	310	560	42892	799	45571	76
STABILIZED LEVEL FLIGHT	310	800	43562	555	53616	600
STABILIZED LEVEL FLIGHT	310	910	45926	900	55312	699
STABILIZED LEVEL FLIGHT	310	910	48234	558	55312	799
STABILIZED LEVEL FLIGHT	310	910	49254	100	51270	300
STABILIZED LEVEL FLIGHT	310	910	68360	398	92487	569
STABILIZED LEVEL FLIGHT	310	910	67020	300	93477	300
STABILIZED LEVEL FLIGHT	310	910	82434	558	111263	159
STABILIZED LEVEL FLIGHT	310	910	97916	299	39541	799
STABILIZED LEVEL FLIGHT	310	910	98254	400	41217	360
STABILIZED LEVEL FLIGHT	310	910	98360	398	51940	500
STABILIZED LEVEL FLIGHT	310	910	99247	569	65164	299
STABILIZED LEVEL FLIGHT	310	910	99477	300	68025	299
STABILIZED LEVEL FLIGHT	310	910	99500	300	70371	000
STABILIZED LEVEL FLIGHT	310	910	99541	695	74392	159
STABILIZED LEVEL FLIGHT	310	910	99564	695	86455	799
STABILIZED LEVEL FLIGHT	310	910	99571	695	90550	000
STABILIZED LEVEL FLIGHT	310	910	99574	695	98469	000
STABILIZED LEVEL FLIGHT	310	910	99576	695	99469	000
STABILIZED LEVEL FLIGHT	310	910	99577	695	99477	000
STABILIZED LEVEL FLIGHT	310	910	99578	695	99478	000
STABILIZED LEVEL FLIGHT	310	910	99579	695	99479	000
STABILIZED LEVEL FLIGHT	310	910	99580	695	99480	000
STABILIZED LEVEL FLIGHT	310	910	99581	695	99481	000
STABILIZED LEVEL FLIGHT	310	910	99582	695	99482	000
STABILIZED LEVEL FLIGHT	310	910	99583	695	99483	000
STABILIZED LEVEL FLIGHT	310	910	99584	695	99484	000
STABILIZED LEVEL FLIGHT	310	910	99585	695	99485	000
STABILIZED LEVEL FLIGHT	310	910	99586	695	99486	000
STABILIZED LEVEL FLIGHT	310	910	99587	695	99487	000
STABILIZED LEVEL FLIGHT	310	910	99588	695	99488	000
STABILIZED LEVEL FLIGHT	310	910	99589	695	99489	000
STABILIZED LEVEL FLIGHT	310	910	99590	695	99490	000
STABILIZED LEVEL FLIGHT	310	910	99591	695	99491	000
STABILIZED LEVEL FLIGHT	310	910	99592	695	99492	000
STABILIZED LEVEL FLIGHT	310	910	99593	695	99493	000
STABILIZED LEVEL FLIGHT	310	910	99594	695	99494	000
STABILIZED LEVEL FLIGHT	310	910	99595	695	99495	000
STABILIZED LEVEL FLIGHT	310	910	99596	695	99496	000
STABILIZED LEVEL FLIGHT	310	910	99597	695	99497	000
STABILIZED LEVEL FLIGHT	310	910	99598	695	99498	000
STABILIZED LEVEL FLIGHT	310	910	99599	695	99499	000
STABILIZED LEVEL FLIGHT	310	910	99600	695	99500	000

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UGS 3-65

LOAD SURVEY - RADAR ANTENNA M/R PLACES

MODEL UH-1B 843 FLT. 143-Q
SHIP AF 62-2023 DATE 19 AUG 65

C.G. 790G LE.
C.G. STA. 133.2

ALI. 300G FL WD
USC. NC. 1

CTR NO.	TEST CONDITION	RPM	VCAT KTS	NR FLAPPING	GSC
			MEAN		
833	STABILIZED LEVEL FLIGHT	310	23.0	0.294	6.702
834	STABILIZED LEVEL FLIGHT	310	43.0	0.892	5.596
835	STABILIZED LEVEL FLIGHT	310	59.0	1.176	5.890
836	STABILIZED LEVEL FLIGHT	310	80.0	2.058	5.586
837	STABILIZED LEVEL FLIGHT	310	91.0	0.882	6.410
838	STABILIZED LEVEL FLIGHT	310	100.0	0.566	6.116
839	STABILIZED LEVEL FLIGHT	310	110.0	-0.294	7.350
840	STABILIZED LEVEL FLIGHT	310	115.0	0.568	6.704
841	STABILIZED LEVEL FLIGHT	310	120.0	1.176	7.056
842	STABILIZED LEVEL FLIGHT	324	23.0	0.082	7.320
843	STABILIZED LEVEL FLIGHT	324	43.0	-0.294	6.174
844	STABILIZED LEVEL FLIGHT	324	59.0	0.882	6.998
845	STABILIZED LEVEL FLIGHT	324	80.0	1.470	6.996
846	STABILIZED LEVEL FLIGHT	324	91.0	0.862	6.410
847	STABILIZED LEVEL FLIGHT	324	100.0	1.176	6.116
848	STABILIZED LEVEL FLIGHT	324	110.0	1.176	2.940
849	STABILIZED LEVEL FLIGHT	324	115.0	0.882	2.640
850	STABILIZED LEVEL FLIGHT	324	120.0	0.568	6.116

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LOAD SURVEY - RACAR ANTENNA M/R

"PROBE" CC. "PROBE" PROBE 2440 PROBE 2440 PAGE 12

MCOLEL UH-1E 543 FLT. 143-E DATE 19 AUG 65' C.G. STA. 133.2 GSC. AC. 1
SHIP AF 62-2C23

CTR NU.	TEST CONDITION	RPM	PILOT VERT VIBRATION		
			VGR	KTS	MEAN CSC
833	STABILIZED LEVEL FLIGHT	310	23.0	0.565	0.104
834	STABILIZED LEVEL FLIGHT	310	42.0	0.577	0.092
835	STABILIZED LEVEL FLIGHT	310	59.0	1.017	0.121
836	STABILIZED LEVEL FLIGHT	310	66.0	1.025	0.150
837	STABILIZED LEVEL FLIGHT	310	91.0	1.052	0.213
838	STABILIZED LEVEL FLIGHT	310	1CC.0	1.058	0.242
839	STABILIZED LEVEL FLIGHT	310	116.0	1.046	0.288
840	STABILIZED LEVEL FLIGHT	310	115.0	1.029	0.306
841	STABILIZED LEVEL FLIGHT	310	120.0	0.968	0.357
842	STABILIZED LEVEL FLIGHT	324	23.0	0.963	0.121
843	STABILIZED LEVEL FLIGHT	324	43.0	0.994	0.086
844	STABILIZED LEVEL FLIGHT	324	59.0	1.023	0.092
845	STABILIZED LEVEL FLIGHT	324	80.0	1.058	0.115
846	STABILIZED LEVEL FLIGHT	324	91.0	1.023	0.219
847	STABILIZED LEVEL FLIGHT	324	106.0	1.058	0.242
848	STABILIZED LEVEL FLIGHT	324	110.0	1.098	0.219
849	STABILIZED LEVEL FLIGHT	324	115.0	0.977	0.277
850	STABILIZED LEVEL FLIGHT	324	120.0	1.046	0.288

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LOGO SURVEY - RACER ANTENNA M/R PLACES

MODEL UH-1C 943 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65

G.W. 7500 LBS. C.G. STAB 123.2 GSC. AC. 1

CTA NO.	TEST CONDITION	CO-PILOT VERT VIBR	
		VCAL	KTS MEAN
833	STABILIZED LEVEL FLIGHT	310	23.0
834	STABILIZED LEVEL FLIGHT	310	43.0
835	STABILIZED LEVEL FLIGHT	310	55.0
836	STABILIZED LEVEL FLIGHT	310	66.0
837	STABILIZED LEVEL FLIGHT	310	81.0
838	STABILIZED LEVEL FLIGHT	310	100.0
839	STABILIZED LEVEL FLIGHT	310	110.0
840	STABILIZED LEVEL FLIGHT	310	115.0
841	STABILIZED LEVEL FLIGHT	310	120.0
842	STABILIZED LEVEL FLIGHT	324	22.0
843	STABILIZED LEVEL FLIGHT	324	41.0
844	STABILIZED LEVEL FLIGHT	324	59.0
845	STABILIZED LEVEL FLIGHT	324	80.0
846	STABILIZED LEVEL FLIGHT	324	91.0
847	STABILIZED LEVEL FLIGHT	324	100.0
848	STABILIZED LEVEL FLIGHT	324	110.0
849	STABILIZED LEVEL FLIGHT	324	115.0
850	STABILIZED LEVEL FLIGHT	324	120.0

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EL-- JPII CG 2RD M F C CG /01 RAC /2 1 1

LCAO SURVEY - RACAR ANTENNA M/R GLADES

MODEL UH-1B 543 FLT. 143-8
SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA. 132.2 ALT. 3000 FT HD

CTA NG.	TEST CONDITION	RPM	XFS	MEAN	CSC
833	STABILIZED LEVEL FLIGHT	310	22.0	1.000	0.665
834	STABILIZED LEVEL FLIGHT	310	42.0	0.975	0.085
835	STABILIZED LEVEL FLIGHT	310	59.0	1.027	0.060
836	STABILIZED LEVEL FLIGHT	310	86.0	1.043	0.117
837	STABILIZED LEVEL FLIGHT	310	91.0	1.059	0.031
838	STABILIZED LEVEL FLIGHT	310	100.0	1.055	0.117
839	STABILIZED LEVEL FLIGHT	310	110.0	1.07	0.117
840	STABILIZED LEVEL FLIGHT	310	115.0	1.065	0.133
841	STABILIZED LEVEL FLIGHT	310	120.0	1.021	0.160
842	STABILIZED LEVEL FLIGHT	324	23.0	0.995	0.123
843	STABILIZED LEVEL FLIGHT	324	43.0	0.995	0.154
844	STABILIZED LEVEL FLIGHT	324	59.0	1.032	0.096
845	STABILIZED LEVEL FLIGHT	324	80.0	1.064	0.065
846	STABILIZED LEVEL FLIGHT	324	91.0	1.043	0.117
847	STABILIZED LEVEL FLIGHT	324	100.0	1.069	0.154
848	STABILIZED LEVEL FLIGHT	324	110.0	1.053	0.106
849	STABILIZED LEVEL FLIGHT	324	115.0	1.000	0.106
850	STABILIZED LEVEL FLIGHT	324	120.0	1.064	0.117

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LAND SURVEY - NAVSTAR ANTENNA A/R

MCGILL UM-10 S43 FLT. 143-B DATE 19 AUG 05 C.G. \$10. 133.2 GSC. NO. 1 ALT. 3000 FT MD

CTA NO.	TEST CONDITION	RPM	VCA	R/H CYC BOOST TUBE #EAN	R/H CYC BOOST TUBE QSC
833	STABILIZED LEVEL FLIGHT	310	23.0	146.150	234.500
834	STABILIZED LEVEL FLIGHT	310	4.0	140.700	140.700
835	STABILIZED LEVEL FLIGHT	310	55.0	140.700	140.700
836	STABILIZED LEVEL FLIGHT	310	80.0	164.150	164.150
837	STABILIZED LEVEL FLIGHT	310	91.0	257.950	211.050
838	STABILIZED LEVEL FLIGHT	310	110.0	211.050	281.400
839	STABILIZED LEVEL FLIGHT	310	110.0	263.125	340.025
840	STABILIZED LEVEL FLIGHT	310	110.0	266.225	363.475
841	STABILIZED LEVEL FLIGHT	310	120.0	304.850	465.000
842	STABILIZED LEVEL FLIGHT	310	160.0	199.325	265.675
843	STABILIZED LEVEL FLIGHT	310	160.0	128.975	173.875
844	STABILIZED LEVEL FLIGHT	310	170.0	152.425	152.425
845	STABILIZED LEVEL FLIGHT	324	8.0	152.425	152.425
846	STABILIZED LEVEL FLIGHT	324	110.0	187.600	304.870
847	STABILIZED LEVEL FLIGHT	324	120.0	222.775	263.125
850	STABILIZED LEVEL FLIGHT	324	120.0	234.500	351.750

LOAD SURVEY - RADAR ANTENNA M/R PLACES

MODEL UH-1B 543 FLT. 143-E
SHIP AF 62-2023 DATE 19 AUG 65

CTA	NC.	TEST CONCIT ION	RPM	V CAL	L/H CYC BOOST TUBE
			KTS	PEAN	CSC
	833	STABILIZED LEVEL FLIGHT	310	23.0	-11.225
	834	STABILIZED LEVEL FLIGHT	310	43.0	44.900
	835	STABILIZED LEVEL FLIGHT	310	59.0	22.450
	836	STABILIZED LEVEL FLIGHT	310	60.0	44.900
	837	STABILIZED LEVEL FLIGHT	310	91.0	-56.125
	838	STABILIZED LEVEL FLIGHT	310	100.0	-145.925
	839	STABILIZED LEVEL FLIGHT	310	110.0	-202.050
	840	STABILIZED LEVEL FLIGHT	310	115.0	-176.600
	841	STABILIZED LEVEL FLIGHT	310	115.0	-157.150
	842	STABILIZED LEVEL FLIGHT	324	23.0	33.675
	843	STABILIZED LEVEL FLIGHT	324	43.0	32.675
	844	STABILIZED LEVEL FLIGHT	324	59.0	44.900
	845	STABILIZED LEVEL FLIGHT	324	80.0	-0.000
	846	STABILIZED LEVEL FLIGHT	324	91.0	-33.675
	847	STABILIZED LEVEL FLIGHT	324	100.0	-44.900
	848	STABILIZED LEVEL FLIGHT	324	110.0	-44.900
	849	STABILIZED LEVEL FLIGHT	324	115.0	-22.450
	850	STABILIZED LEVEL FLIGHT	324	120.0	-89.800

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LOAD SURVEY - RACAR ANTENNA "IR" PLACES

POCDEL UN-18 543 FLT. 163-8 G.W. 7550 46.0 ALT. 3000 FT HD
 SHIP AF 62-2023 DATE 19 AUG 65 C.G. STA. 133.2 GSC. AC. 1

CRA NO.	TEST CIRCUIT	PP. NIS	VOL. MAA	CCUR. ACCST TUE	CSC
833	STABILIZED LEVEL FLIGHT	310	23.0	-24.66C	82.200
834	STABILIZED LEVEL FLIGHT	310	42.0	16.440	73.930
835	STABILIZED LEVEL FLIGHT	310	55.0	16.440	82.200
836	STABILIZED LEVEL FLIGHT	310	80.0	32.88C	166.860
837	STABILIZED LEVEL FLIGHT	310	91.0	32.88C	115.080
838	STABILIZED LEVEL FLIGHT	310	100.0	0.CCC	165.060
839	STABILIZED LEVEL FLIGHT	310	110.0	4.110	234.270
840	STABILIZED LEVEL FLIGHT	310	115.0	0.CCC	271.260
841	STABILIZED LEVEL FLIGHT	310	120.0	41.1CC	361.680
842	STABILIZED LEVEL FLIGHT	324	23.0	16.440	50.640
843	STABILIZED LEVEL FLIGHT	324	42.0	36.95C	78.090
844	STABILIZED LEVEL FLIGHT	324	55.0	49.320	73.960
845	STABILIZED LEVEL FLIGHT	324	80.0	61.65C	11C.970
846	STABILIZED LEVEL FLIGHT	324	91.0	49.320	156.180
847	STABILIZED LEVEL FLIGHT	324	100.0	61.65C	184.950
848	STABILIZED LEVEL FLIGHT	324	110.0	45.21C	205.610
849	STABILIZED LEVEL FLIGHT	324	115.0	45.21C	258.930
850	STABILIZED LEVEL FLIGHT	324	120.0	28.77C	242.490

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REPORT
REF ID: A64162

BY J.A. Mangum
CHECKED R.H. Wheelock

BELL HELICOPTER COMPANY
POST OFFICE BOX 402 • FORT WORTH, TEXAS

MODEL UH-1B PAGE 163
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APPENDIX F

Flight Log of Equipment

BY J.A. Mangum
CHECKED R.H.Wheelock

BELL HELICOPTER COMPANY
1901 MCKEEBEE ROAD • FORT WORTH, TEXAS

MODEL UH-1B PAGE 164
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TABLE I
MAIN ROTOR RADAR BLADE FLIGHT LOG

<u>Flight Number</u>	<u>Flight Time</u>	<u>Date</u>	<u>Changes In Configuration</u>	<u>Purpose of Flight & Remarks</u>
GR37	.3	8-18-65	Radar Blades Installed No Wave Guides to Cabin	Shakedown; Tracking & Balance Check
142	.2	8-18-65	None	Flight Shakedown
143A	.4	8-19-65	Ballasted to C.G. of 125.40 inches	Load Level Survey
143B	.4	8-19-65	Ballasted to C.G. of 133.2 inches	Load Level Survey
144	.3	8-26-65	Wave Guides to Cabin Installed. Transmitter Installed. Ballasted to 131.59 inches.	Electromagnetic Radiation Tests
145	2.2	8-27-65	None	Electromagnetic Radiation Tests
146	1.1	8-30-65	None	Electromagnetic Radiation Tests Tape failed on white blade leading edge after 4.9 hours
147	2.9	8-31-65	White Blade Retaped	Electromagnetic Radiation Tests Tape failed on white blade after 2.9 hours.
148	1.9	9-1-65	White Blade Retaped	Electromagnetic Radiation Tests Tape bulged but not replaced. Mask- ing tape used to patch bulges.
149	3.6	9-2-65	None	Electromagnetic Radiation Tests Tape failed but patched on both blades.
150	2.4	9-3-65	None	Electromagnetic Radiation Tests Tape failed but patched on both blades.

TABLE I - (Cont)

MAIN ROTOR RADAR BLADE FLIGHT LOG- (cont)

BY <u>J. Mangum</u> CHECKED <u>R.H.Wheelock</u>	BELL HELICOPTER COMPANY 1901 BELLINE DRIVE • FORGE CITY, PENNSYLVANIA 15057	MODEL <u>UH-1B</u> PAGE <u>165</u> RPT <u>204-100-113</u>		
Flight Number	Flight Time	Date	Changes In Configuration	Purpose of Flight & Remarks
GR38	.4	9-8-65	None (Bladewise)	Shakedown of Heater Mixing Valve
151	1.3	9-9-65	None (Bladewise)	Shakedown of Instrumentation; Heater Valve Tests. Flex Wave Guides (on Hub) Failed Both Sides. No more deterioration on Blade Tape.
				17.4 Hours Total Time

BY J. A. Mangum
CHECKED R.H. Wheelock

BELL HELICOPTER COMPANY
POST OFFICE BOX 400 • FORT WORTH, TEXAS

MODEL UH-1B PAGE 166
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APPENDIX G

Pilot Reports

BY 8-24-65 DATE L.Hartwig	BELL HELICOPTER COMPANY POST OFFICE BOX 1111 • 1001 BROADWAY LITTLE ROCK		MODEL UH-1B	PAGE 1
CHECKED DATE			HELICOPTER NUMBER 543 (62-2023)	
PILOT Hartwig	PILOT REPORT		PLACE Southwest	
CREW			FLIGHT NO. 142 8-18-65	GROUND RUN NO.
WEATHER	PRESSURE ALT.		G. A. T.	WIND
PURPOSE Radar Blade Shakedown				
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION .2	
C.G. FROM STA. O. 133.05	G.W. 6505 LBS.	TOTAL FLIGHT TIME TO DATE 192.1		TOTAL ENGINE TIME TO DATE
CHANGES SINCE LAST FLIGHT <ol style="list-style-type: none"> 1. Removed tiedown assembly. 2. Removed two washers from each main rotor balance weight. 3. Safetied main rotor pitch link assembly. 				
<p>The purpose of this flight was to shakedown the rotor installation.</p> <p>Track and balance was very good at all times. Oscillograph records were secured at 80, 100 and 120 Knots to check the instrumentation. Post flight inspection of the leading edge covering indicated that it was still bonded to the blade very securely.</p>				
86:LWH:bt-2509				

BY 8-24-65	DATE	BELL HELICOPTER COMPANY POST OFFICE BOX 101 • FORT WORTH, TEXAS	MODEL UH-1B	PAGE 1
CHECKED	DATE	HELICOPTER NUMBER 543 (62-2023)		
PILOT	Hartwig	PILOT REPORT		
CREW		PLACE	Southwest	
WEATHER		PRESSURE ALT.	O.A.T.	WIND
PURPOSE Radar Blade Load Level				
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION A: .4 - B: .4	
C.G. 125.4(B) 133.29	G.W. 7550 LBS.	TOTAL FLIGHT TIME TO DATE 192.0	TOTAL ENGINE TIME TO DATE	
CHANGES SINCE LAST FLIGHT A: 1. Installed 1050# ballast at Sta. 78. 2. Daily inspection completed. B: 1. Ballast as follows: 275# at 185 and 775# at 117. 2. Fueled to capacity.				
The purpose of these flights was to secure a load level survey on the radar antenna blades. Flights were made at 7500 pounds and at both C.G. extremes. Standard load level maneuvers were flown and the loads recorded. The light weight rubber covering on the leading edge appears to be holding up real good. Refer to the engineering flight test report for the results of the records.				
86:LWH:bt-2517				
7071 58410 REV. 1108				

BY L. Hartwig DATE 8-24-65		MODEL UH-1B PAGE 1	
CHECKED	DATE	HELICOPTER NUMBER	
PILOT Hartwig	PILOT REPORT		PLACE Southwest
CREW			FLIGHT NO. 37 GROUND RUN NO. 8-18-65
WEATHER	PRESSURE ALT.	O. A. T.	WIND
PURPOSE Radar Blade Checks Ground Run			
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION .3
C.G. FROM STA. O.	G.W. LBS.	TOTAL FLIGHT TIME TO DATE	TOTAL ENG HE TIME TO DATE 111.4

CHANGES SINCE LAST FLIGHT

- A: 1. Daily inspection completed.
 - 2. Removed main rotor and removed blades.
 - 3. Installed main rotor blades S/N A2-247 and A2-836 (radar blades).
 - 4. Aligned and balanced main rotor assembly and installed to B/P.
 - 5. Installed main rotor standpipe and slip ring.
 - 6. Reinstalled stabilizer bar assembly to B/P same.
 - 7. Replaced starter-generator with S/N 1332 Lear Siegler.
 - 8. Removed ballast from Sta. 116.
 - 9. Installed tiedown link.
 - 10. Reweighed ship with 1150# fuel aboard.
 - 11. Repaired leading edge of radar blade S/N A2-836 per Jan Powell.
- B: 1. Rolled white blade 3/4 flat.

The purpose of this ground run was to shakedown the rotor installation. The thick rubber covering on the leading edge was removed and a thin light weight material was bonded on. On the previous flight, the thick covering peeled off, resulting in a very heavy one per rev.

An RPM and power sweep was run and there appeared to be no problem. Boost off check revealed the collective forces were excessive on the positive side so two washers were removed from the chinese weights. This balanced the force out to an acceptable level.

Oscillograph records were secured of the RPM and power sweep. Refer to the Engineering Flight Test Report for the results of the data recorded on this run.

A post run inspection of the leading edge covering revealed no evidence of the tape becoming loosened.

86:LWH:bt-2510

BY 8-31-65 DATE L. Hartwig		BELL HELICOPTER COMPANY POST OFFICE BOX 101 • FORT WORTH TEXAS		MODEL UH-1B	PAGE 1
CHECKED	DATE	PILOT REPORT		HELICOPTER NUMBER 543 (62-2023)	
PILOT Hartwig	CREW			PLACE Southwest	FLIGHT NO. 144 8-26-65
WEATHER		PRESSURE ALT.	O. A. T.	WIND	
PURPOSE Radar Blade Installation Shakedown					
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION		
C.O. FROM STA. O. 191.57	G.W. 6597 LBS.	TOTAL FLIGHT TIME TO DATE 193.2	TOTAL ENGINE TIME TO DATE		

CHANGES SINCE LAST FLIGHT

- A. 1. Daily inspection completed
2. Ballast 200# at Sta. 83 (observer seat).
3. Removed all ballast from Sta. 117 and 185.
4. Installed radar-antenna blade system, Ref. 299-760-003 and Engineering Instructions.

The purpose of this flight was to shakedown the radar antenna rotor blades after all the electrical connections were completed.

A run up on the ground with high rotor RPM and a lot of flapping by stirring the cyclic was made. An inspection revealed no evidence of the hardware shifting from centrifugal force or from flapping and feather motions. A flight was made up to 125 Knots. Post flight inspection revealed no evidence of hardware shift. The installation appears to be airworthy.

86:LWH:bt-2530

BY 9-2-65 L. Hartwig	DATE			MODEL UH-1B	PAGE 1
CHECKED	DATE	BELL HELICOPTER COMPANY POST OFFICE BOX 601 • 1001 BROAD ST. KILLEEN, TEXAS		HELICOPTER NUMBER 543 (62-2023)	
PILOT Hartwig	PILOT REPORT			PLACE Southwest	
CREW			FLIGHT NO. 145 8-27-65	GROUND RUN NO.	
WEATHER	PRESSURE ALT.		O. A. T.	WIND	
PURPOSE Radar Blade Radiation					
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION 2.2		
C.G. FROM STA. O. 131.59	G.W. 6597 LBS.	TOTAL FLIGHT TIME TO DATE 195.4		TOTAL ENGINE TIME TO DATE	
CHANGES SINCE LAST FLIGHT 1. Daily inspection completed. (No changes).					

The purpose of this flight was to ferry to Globe and to fly at and over a target 5000' north of Globe 800' high to measure antenna pattern and signal strength from the signal generating from the blades.

David Young, the consulting engineer, was very pleased with the results of the data recorded on this flight.

Refer to the Engineering Flight Test Report for the results of the data recorded on this flight.

LWH:bt-2546

BY 9-2-65 L. Hartwig	DATE CHECKED PILOT Hartwig	BELL HELICOPTER COMPANY POST OFFICE BOX 601 • FORT WORTH TEXAS	MODEL UH-1B	PAGE 1
		PILOT REPORT	HELICOPTER NUMBER 543(62-2023)	PLACE Southwest
CREW			FLIGHT NO. 146 8-30-65	GROUND RUN NO.
WEATHER		PRESSURE ALT.	O.A.T.	WIND
PURPOSE Radar Blade Transmission Flight				
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION 1.1	
C.G. FROM STA. O. 131.59	G.W. 6597 LBS.	TOTAL FLIGHT TIME TO DATE 196.5	TOTAL ENGINE TIME TO DATE	

CHANGES SINCE LAST FLIGHT

1. Daily inspection completed.

The purpose of this flight was to secure data on the radar antenna blades.

A number of test points were secured using a marker 5000' horizontally from Globe and 800' above the ground. A signal was transmitted from the blades to a ground recorder that measured the signal on an oscilloscope. A photograph was made for a permanent record.

The plastic tape material used to cover the antenna area in the nose section of the blades started to come off so the data flights were terminated.

Refer to the Engineering Report for the data recorded on this flight. The Engineers were pleased with the results of the raw data obtained to date.

86:LWH:bt-2547

BY 9-2-65	DATE			MODEL	UH-1B	PAGE	1
L. Hartwig	CHECKED	DOLL HELICOPTER COMPANY POST OFFICE BOX 601 • 1001 WISCONSIN AVENUE		HELICOPTER NUMBER	543 (62-2023)		
PILOT		PILOT REPORT		PLACE			
Hartwig				FLIGHT NO.	147 8-31-65	GROUND RUN NO.	
CREW				G.A.T.			
Magnum				PRESSURE ALT.			
WEATHER							
PURPOSE Radar Blade Transmissions							
ENG. REPORT NO.	TIME TAKE OFF		TIME LANDING	DURATION	2.9		
C.G. FROM STA. O. 131.95	G.W. 6597 LBS.			TOTAL FLIGHT TIME TO DATE 199.4	TOTAL ENGINE TIME TO DATE		
CHANGES SINCE LAST FLIGHT 1. Recovered leading edge of main rotor blade. 2. Daily inspection completed.							
<p>The purpose of these flights was to ferry the helicopter to and from Globe and to secure radar antenna blade signal data.</p> <p>A number of data points were recorded using the same location north of Globe as on previous flights. The surface winds were 15 to 20 Knots preventing any hover flight dat . The Engineering people running the recording equipment appear to be happy with the data recorded. The plastic covering over the antenna blade that is being used came loose in about one hour. The other blade still looks good.</p> <p>Refer to the Engineering Flight Test Report for the results of the data recorded on these flights.</p>							
86:LWN:bt-2550							
7871 98416 REV. 1163							

BY 9-2-65 L. Hartwig	DATE			MODEL UH-1B	PAGE 1
CHECKED	DATE	BELL HELICOPTER COMPANY POST OFFICE BOX 601 • 1001 BOSTON LANE		HELICOPTER NUMBER Southwest	
PILOT Hartwig	PILOT REPORT		PLACE		
CREW			FLIGHT NO. 148 9-1-65	GROUND RUN NO.	
WEATHER	PRESSURE ALT.		O. A. T.	WIND	
PURPOSE Radar Blade Transmissions					
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION 1.9		
G.W. 131.59	G.W. 6597 LBS.	TOTAL FLIGHT TIME TO DATE 101.3		TOTAL ENGINE TIME TO DATE	
CHANGES SINCE LAST FLIGHT					
<ol style="list-style-type: none"> 1. Replaced tape on white main rotor blade leading edge. 2. Reworked wave guide at top of mast. 3. Daily inspection completed. 4. Topped off fuel. 					

The purpose of this flight was to ferry the helicopter to and from Globe and to secure data on the signal strength being transmitted from the radar antenna installed in the blades. The wave guides were changed over so the antenna on the other blade was tested. Only one blade at a time is used as an antenna on these tests.

The plastic tape on the leading edge of the blades held up much better than the previous flights. On this flight the tape wrinkled up over the antenna but it did not come loose.

Data was recorded over the same target as on the previous flights. Refer to the Engineering Flight Test Report for the results of the data recorded on this flight.

86:LWH:bt-2553

BY	DATE	BELL HELICOPTER COMPANY <small>POST OFFICE BOX 621 • FORT WORTH, TEXAS</small>	MODEL	PAGE
L. Hartwig	9-7-65		UH-1B	1
CHECKED	DATE		HELICOPTER NUMBER	
PILOT	Hartwig	543(42-2023)	PLACE	
CREW	PILOT REPORT			Southwest
WEATHER	PRESSURE ALT.		O. A. T.	WIND
PURPOSE	Radar Blade Transmissions			
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION	
C.G. 131.59	G.W. 6597 LBS.	TOTAL FLIGHT TIME TO DATE 104.9	TOTAL ENGINE TIME TO DATE	

CHANGES SINCE LAST FLIGHT

1. Daily inspection completed.
2. Added one wrap of 2" masking tape to each main rotor blade 13 $\frac{1}{2}$ " from tips.
3. Swapped pilot and co-pilot's altimeters.

The purpose of this flight was to ferry to and from the Globe plant and to secure data on the signal strength being transmitted from the radar antenna installed in the blade.

Data was recorded by the Engineering people at the ground station.

Refer to the Engineering Flight Test Report for the results of the data recorded on this flight.

86:LWH:bt-2560

BY L. Hartwig DATE 9-8-65		BELL HELICOPTER COMPANY POST OFFICE BOX 607 • FORT WORTH, TEXAS		MODEL UH-1B	PAGE 1
CHECKED	DATE	PILOT REPORT		HELICOPTER NUMBER 543 (62-2023)	
PILOT	Hartwig			PLACE	Southwest
CREW				FLIGHT NO. 150 9-3-65	GROUND RUN NO.
WEATHER		PRESSURE ALT.		O. A. T.	WIND
PURPOSE Radar Blade Transmission					
ENG. REPOR. NO.	TIME TAKE OFF		TIME LANDING	DURATION 2.4	
C.G. FROM STA. O. 131.59	G.W. 6597	LBS.	TOTAL FLIGHT TIME TO DATE 107.3	TOTAL ENGINE TIME TO DATE	
CHANGES SINCE LAST FLIGHT <ol style="list-style-type: none"> 1. Daily inspection completed. 2. Refueled to full capacity. 3. Reinforced radar antenna leading edge cover on main rotor blades with masking tape per Engineering Instructions. 					

The purpose of this flight was to ferry to and from Globe and to record data of the signal strength being transmitted from the radar antenna blades.

The plastic tape covering the antenna on the leading edge of the blades came loose in several places. Masking tape was put over the loose areas to prevent further peeling. All data points were completed on this flight completing the current program.

Refer to the Engineering Flight Test Report for the results of the data recorded on this flight.

86:LWH:bt-2568

BY 9-14-65 DATE			MODEL UH-1B	PAGE 1
A. Averill	BELL HELICOPTER COMPANY POST OFFICE BOX 602 • FORT WORTH TEXAS		HELICOPTER NUMBER 543 (62-2023)	
CHECKED DATE	PILOT REPORT		PLACE	
PILOT Averill				
CREW			FLIGHT NO. 151 9-9-65	GROUND RUN NO.
WEATHER	PRESSURE ALT.	O. A. T.	WIND	
PURPOSE Instrumentation Shakedown				
ENG. REPORT NO.	TIME TAKE OFF	TIME LANDING	DURATION	1.3
C.G. FROM STA. O. 131.25	G.W. 6910 LBS.	TOTAL FLIGHT TIME TO DATE 208.6	TOTAL ENGINE TIME TO DATE	
CHANGES SINCE LAST FLIGHT				
<ol style="list-style-type: none"> 1. Daily inspection completed. 2. Topped off fuel. 				

The purpose of this flight was threefold: to check out instrumentation, to accumulate flight time on the "radar" main rotor blades and to checkout bleed air heater mixing valve.

The instrumentation checked out O.K. The upper flexible wave guides (radar blade installation) failed during this flight. They did not fail completely in that the outer rubber tubing kept the metal part in place. The inner metal structure did fail, however. The bleed air heater mixing valve functioned in a satisfactory manner and the desired heat rise was attained.

See Flight Test Engineering for additional data.

86:AA:bt-2587

BY J.A. Mangum
CHECKED R.H.Wheelock

HELL HELICOPTER COMPANY
POST OFFICE BOX 881 • 1001 WILSON LANE

MODEL UH-1B PAGE 178
RPT 204-100-113

LIST OF REFERENCES

- 1 Helicopter Rotor Blade Antenna Radiation Pattern - Phase I Flight Plan and Procedures; prepared by: David W. Young & Associates April 23, 1965

DISTRIBUTION LIST

- 1 - Kelley/Mackenzie/Library
- 1 - UH-1 Project
- 1 - Structures Group
- 2 - Electronics Group
- 2 - Flight Test Group
- 1 - Development Group
- 1 - Preliminary Design
- 1 - David W. Young & Associates